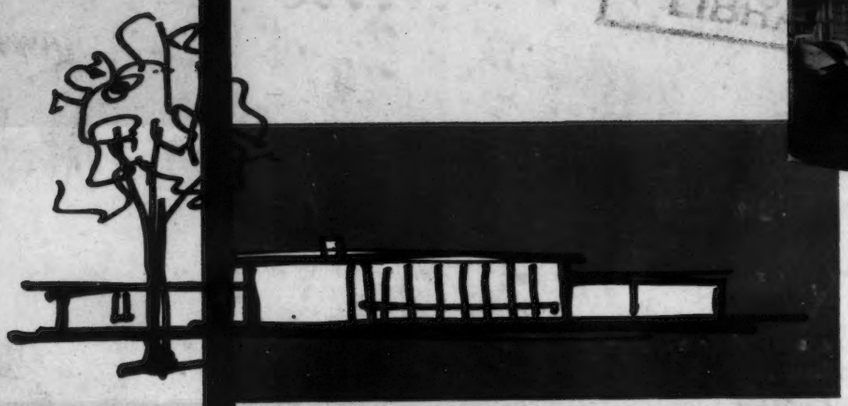
# ARCHITECTURAL RECORD





OHIO STATE
NOV 15
LIBRARY







Torbert











NOVEMBER 1950



**For Service and Safety...**

# *Re-Floor with Flintkote*

## Patching...Resurfacing...complete New Surfacing is quick and easy with cold-laid asphalt mastic mixtures.



You cut cost three ways when you repair or re-floor using Flintkote Flooring Emulsions.

**Installation is fast.** This means a minimum of preparation to apply and a saving in time loss through interruptions of operation. Mastic made with Flintkote Flooring Emulsions can be hand finished or power floated and opened to normal traffic in as little as 48 hours.

**Maintenance is minimized.** The resilient qualities of these floors make them truly heavy duty. They absorb shock from heavy loads. They do not require joints. And traffic irons out minor cuts or bumps. Patches may be featheredged.

**Service life is long and pleasant.** You'll get years of trouble-free service from Mastic made with Flintkote Flooring Emulsions. And a bonus of employee satisfaction goes with it, because these floors offer a comfortable surface on which to work. They're resilient and quiet . . . serve to insulate against cold floors.

So, don't fail to specify Flintkote Flooring Emulsions whether purchasing for your own use or letting a contract, and thereby obtain the floor that gives you top quality . . . while it saves you money. Comprehensive literature is yours for the asking.

**THE FLINTKOTE COMPANY** *Industrial Products Division*
**30 Rockefeller Plaza, New York 20, N. Y.**
**Atlanta • Boston • Chicago Heights • Detroit • Los Angeles**
**New Orleans • Washington • Toronto • Montreal**

### FLINTDEK MAKES SLIPPERY SURFACES SAFER!

Whenever slippery floors create a hazard, cut the risk with Flintdek.* This popular oil and grease resistant, anti-slip floor coating is now available in Cement Gray, Slate Gray, Visibility Yellow, Tile Red and Green.

Properly applied by trowel to almost any clean, rigid surface . . . Flintdek will not chip or peel. And areas such as ramps, platforms, steps, around machinery and pools are far safer places to work when surfaced with this durable, anti-slip coating. Write for folder and free applied sample.

*TRADE MARK




**FLINTKOTE** *Products for Industry*

ARCHITECTURAL RECORD (Vol. 108, No. 5, November, 1950) is published monthly by F. W. Dodge Corp., 10 Ferry Street, Concord, N. H., with editorial and executive offices at 119 W. 40th St., New York 18, N. Y. $4.50 per year; Foreign, $6.50.
(Regular Edition)

*Entered as second-class matter at the Post Office, Concord, N. H., March 16, 1946, under the Act of March 3, 1879.*

# "Custom-Flooring" with Texfloor



## ...puts Sell into floor space!

● Make floors a feature that helps sell the house. Do it with this new plan that lets home buyers pick their own *custom-designed floors* of Texfloor . . . the luxurious linoleum with the textured look. It means the extra of colorful, individualized interiors, but that's not all. Long-wearing Texfloor saves work. It's easy to keep spotlessly clean. AND ECONOMICAL TEXFLOOR CUTS COSTS! Easy-to-install Texfloor costs up to *30% less*, installed, than ordinary flooring. Texfloor offers more, *for less.*

### HERE'S HOW TO DO IT!

Put Texfloor in your model home. Let prospects see how it makes your home more attractive . . . adds the newest decorating effect of sparkling room-to-room color coordination.

Tell your prospects how Texfloor saves them work and money . . . gives them long-wearing, easy-to-clean floors.

Let your home buyers custom-design their own floors, selecting the colors and patterns they want for each room from your Texfloor samples.

**Texfloor*** GIVES EVERY ROOM A GUEST ROOM LOOK!

*Trade-mark

**FREE TEXFLOOR SAMPLES!** Send for further information and FREE SAMPLES of TEXFLOOR today. Write Dept. AR-6, Sloane-Blabon Corporation, 295 Fifth Avenue, N.Y. 16, N.Y.

SLOANE Quality LINOLEUM PRODUCTS

**SLOANE-BLABON CORPORATION**
**295 FIFTH AVENUE, NEW YORK 16, N. Y.**

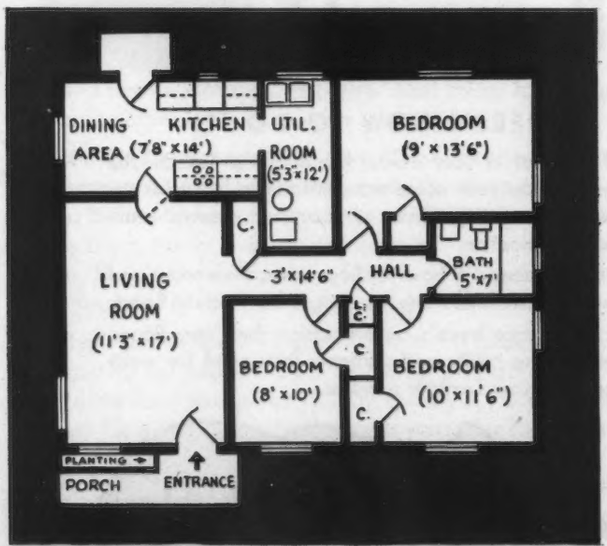
# Building ideas for today



**Meet Mr. M. T. Broyhill** and his two sons (M. T. Jr., left, and Joel T., right) leading Washington builders and developers. They asked homeseekers "What sort of a home do you *really* want?"

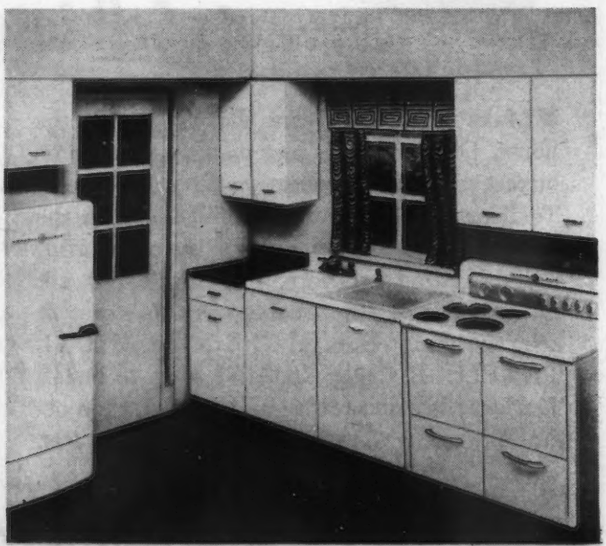
Here is a capsule of the answers: 74% said, "I want rambler!" 63% said, "I want 3 bedrooms!" 83% said, "I want a General Electric Kitchen!"

The Broyhills designed a home to meet these specifications. What followed is a most amazing success story. All 1000 G-E equipped houses were sold within 60 days!




**This all-on-one-floor house** is built of brick, has 3 bedrooms, a large living room, tile bath, copper plumbing, dining space, clear oak hardwood floors, furred and plastered walls.

Owners were given a choice of eleven distinctive exteriors; all lots are completely landscaped and include shrubbery.



**This is the kitchen** 83% of the people interviewed in the survey want in their new homes—General Electric! It includes the G-E Spacemaker Refrigerator, G-E Speed Cooking Range, G-E Dishwasher, G-E Disposall® Unit, G-E Steel Cabinets and G-E Texolite® Counter Tops. Yet, the complete house sold in the $10,000 class!

# — from Washington !

**Take a tip from an enterprising Washington, D. C. builder and developer who asked thousands of homeseekers what they really wanted . . . then built houses to their needs . . . and sold *all* 1000 General Electric equipped houses within 60 days!!**



## *ADDITIONAL* PROFIT . . . *LESS* SELLING EXPENSE . . . *MORE* SATISFIED HOMEOWNERS

**. . . when your houses are equipped with General Electric Kitchens!**

TODAY, MORE THAN EVER, people all over the country want complete General Electric Kitchens in the homes they buy.

And that's *good* for you!

It means you can realize an additional profit on your houses. The cost of the General Electric equipment is simply included in the selling price of the house. People recognize this additional value. Furthermore, you can include G-E Kitchen equipment in your homes for as little as $4.80 a month under the "Packaged Mortgage" Plan.

It means that your selling costs may be reduced. Builders all over America report that their General Electric equipped houses sell much faster than those in the same areas that do not offer all-electric living!

It means that your buyers will be more satisfied with their modern, all-electric home that eliminates drudgery in the kitchen!

So see your local General Electric distributor. He will be happy to work hand in hand with you on your projects.

Remember that G.E. offers you the brand of electrical appliances that people prefer to all others . . . tested merchandising programs . . . one source of supply for matched equipment . . . assistance in designing and improving kitchen layouts. And most important: G-E *dependability!*

Home Bureau, General Electric Company, Bridgeport 2, Connecticut.

***You can put your confidence in—***

**GENERAL ELECTRIC**



# IT TAKES ONLY ONE

## to install pipe



## but FIVE to repair it!

One of the most convincing demonstrations on the economy of using *durable* material is a repair job where low-first-cost material has failed—and is being replaced.

The original installation had been quickly made by pipe fitters. But the replacement calls for hours of work by as many as five crafts: pipe fitter, mason, plasterer, carpenter, painter. And this is only part of the cost story. The loss in production or utilization during the shut-down may amount to far more than the maintenance charge.

True, you pay a little more to *begin* with for Byers Wrought Iron pipe . . . but you pay a lot less to *end* with. In literally thousands of applications where corrosion costs you more than wrought iron, the use of this material is the soundest kind of economy move.



**WHY WROUGHT IRON LASTS**

This notch-fracture test specimen illustrates the unusual fibrous structure of wrought iron—which is responsible for the unusual corrosion resistance of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, halt and disperse corrosive attack, and discourage pitting and penetration. They also anchor the initial protective scale, which shields the underlying metal.

You will find a lot of helpful information on the control of excessive maintenance through the use of Byers Wrought Iron pipe in our technical bulletin, WROUGHT IRON FOR PIPING SYSTEMS. We will be glad to send you a copy.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, San Francisco, Export Division: New York, New York.

# BYERS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

**WROUGHT IRON**

**TUBULAR AND HOT ROLLED PRODUCTS**

ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

*Vol. 108 · No. 5* *November 1950*

# ARCHITECTURAL RECORD

Copyright 1950 by F. W. DODGE CORPORATION, with all rights reserved • Publishing Director, Magazine Division, H. Judd Payne • Business Manager, Robert F. Marshall • **EDITORS:** Editor-in-Chief: Harold D. Hauf, A.I.A., A.S.C.E.; Managing Editor, Emerson Goble; Senior Associate Editor, Frank G. Lopez, A.I.A.; Associate Editors, Robert E. Fischer (Engineering), Florence A. van Wyck; Assistant Editor, Herbert L. Smith, Jr., A.I.A.; Washington News, Ernest Mickel; Contributing Editor Frederic A. Pawley; Western Editor, Elisabeth Kendall Thompson; Special Editorial Representative, Western Section, William C. Rodd; Associate in South America, Edmund J. Whiting, A.I.A.; Editorial Assistants, Jeanne Davern, Dorothy C. Jackson • **ART DEPARTMENT:** Design Consultant, M. Peter Piening; Assistant, Frances Torbert; Drafting, Sigman-Ward • **CONSULTANTS:** Chairman, Editorial Board, Kenneth Kingsley Stowell, A.I.A; Industry Relations Consultant, Thomas S. Holden; Statistical Consultant, Clyde Shute; Field Research Consultant, Clifford Dunnells, Jr.

Architectural Record (combined with American Architect and Architecture) is published monthly by F. W. Dodge Corporation, 10 Ferry St., Concord, N. H., with Editorial and Executive Offices at 119 West 40th Street, New York, N. Y. Western Editorial Office, 2813 Channing Way, Berkeley, Calif. Thomas S. Holden, Pres.; Howard J. Barringer, Vice-Pres. and Treas.; Irving W. Hadsell, Vice-Pres.; Chauncey L. Williams, Vice-Pres.; Sanford D. Stockton, Jr., Secy.; Walter F. De Saix, Asst. Treas.; Edwin H. Freed, Asst. Treas.; Irving B. Satin, Asst. Treas. Member Audit Bureau of Circulation and Associated Business Papers Inc. Architectural Record is indexed in Reader's Guide, Art Index, Industrial Arts Index and Engineering Index. Subscription rates: United States and Possessions, Canada, Cuba, Mexico, Central and South America, and Spain, $4.50 the year, $7.50 for two years, $9 for three years; elsewhere, $6.50 the year, $11.50 for two years, $15 for three years. Single copy $1. Circulation Manager: Marshall T. Ginn. Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage. Other Dodge Services: Real Estate Record & Builders' Guide, Sweet's Files, Home Owners' Catalog, Dodge Reports & Dodge Statistical Research Service.

**COVER:**
**Photographs by Joseph W. Molitor, Hedrich-Blessing, Piaget Studio, Robert C. Cleveland, Pirkle Jones, Richard Garrison.**
**Cover Design by Frances Torbert**

THE RECORD REPORTS ..... 9
News from Washington. By Ernest Mickel ..... 15
News from Canada. By John Caulfield Smith ..... 16
Construction Cost Indexes ..... 26

REQUIRED READING ..... 28

BUILDING RESEARCH AND MODULAR COORDINATION ARE NEEDED NOW ..... 101
An Editorial

ART BUILDING, CARLETON COLLEGE ..... 102
Boliou Hall, Northfield, Minn. Magney, Tusler & Setter, Architects

WEST COAST OFFICES FOR U. S. GYPSUM CO. ..... 108
Cejay Parsons, Architect

RIO GRANDE NATIONAL LIFE BUILDING ..... 110
Dallas, Tex. Grayson Gill, Architects. George Foster Harrell, Consulting Architect

ARCHITECTURE IN HAWAII, PART II ..... 113
TERMINAL FOR OAHU TRANSPORT CO., LTD., HONOLULU ..... 114
Law & Wilson, Architects, Engineers, Surveyors
MEDICAL ARTS BUILDING, HONOLULU ..... 116
Kenji Onodera, Architect
WALTER N. BOYSEN CO. (HAWAII), LTD. ..... 118
Cyril W. Lemmon, Architect; Douglas Freeth, Associate
SEARS, ROEBUCK & CO., HONOLULU ..... 119
Guy N. Rothwell, Architect. Edmund C. Abrams, Associate
MC CULLY SQUARE BUILDING, HONOLULU ..... 120
Wimberly and Cook, Architects
LOUNGE AND LOCKER BUILDING, PEARL HARBOR ..... 122
Public Works Office, Navy Yard., Pearl Harbor. J. B. A. Van Oort, Department Head Architect. Tom Litaker, Job Captain Architect
AUDITORIUM, JOHN H. WILSON PLAYGROUND ..... 122
Ernest H. Hara, Architect
HOLY TRINITY CHURCH, HONOLULU ..... 124
Edwin I. Bauer, Architect
IOLANI SCHOOL FACULTY HOUSING ..... 125
R. E. Windisch, Architect
RESIDENCE OF MRS. ALICE C. LENNING, HONOLULU ..... 126
Ives & Hogan, Architects
RESIDENCE OF MILDON A. PIETSCHMAN ..... 126
Richard N. Dennis, Architect
AINA HAINA HOUSING ..... 128

BUILDING TYPES STUDY NO. 168 . . . HOUSES
A HOUSE IS A HOUSE IS A HOUSE ..... 131
HOUSE IN ANDOVER, MASSACHUSETTS ..... 133
Bernard Kessler, Architect
HOUSE FOR DR. MARY G. HAMILTON, SARATOGA, CALIFORNIA 138
Victor King Thompson, Designer
ARCHITECT'S OWN HOUSE, CINCINNATI, OHIO ..... 142
Carl A. Strauss, Architect
HEADMASTER'S HOUSE, COUNTRY DAY SCHOOL, ST. LOUIS, MO. 145
Frederick Dunn, Architect
HOUSE IN A NEW YORK SUBURB ..... 148
Olindo Grossi, Architect
HOUSE IN BEVERLY HILLS, CALIFORNIA ..... 152
Paul Laszlo, Architect

ARCHITECTURAL ENGINEERING
TECHNICAL NEWS AND RESEARCH
TEST TILE FOOTINGS FOR EXPANSIVE SOILS ..... 155
By Raymond F. Dawson
ARCHITECTURAL ACOUSTICS ..... 158
Article 3, Part Two: Reverberation. (Concluding Article.) By Richard H. Bolt and Robert B. Newman
TECHNICAL NEWS ..... 161
MANUFACTURERS' LITERATURE ..... 162
PRODUCTS . . . for Better Building ..... 164
TIME-SAVER STANDARDS ..... 167
Modular Coordination I, II and III

*In a City of Beautiful Buildings*

# Celotex Roof Insulation is proving itself where it counts most: ON THE JOB!



**KASS BUILDING, WASHINGTON, D. C.**
***specified Celotex Roof Insulation***

*Architect:* James F. Hogan

*Roofing Contractor:* Easterday-Duckworth Company
*Owner and Builder:* Kass Realty Company, Inc.

Only the finest of materials were specified for the ultra-modern Kass Building — one of the newest office buildings in the nation's capital. Among these, naturally, was Celotex Roof Insulation.

***There's a type of Celotex Roof Insulation for every job***

**REGULAR** — for efficient insulation at lowest cost.

**PRESEAL** — with asphalt coating for extra moisture protection.

**PRESEAL "30"** — with asphalt coating; special low density core; guaranteed 0.30 conductance for nominal 1" thick material before coating.

**VAPOR-SEAL** — with asphalt coating; guaranteed 0.30 Btu conductance for nominal 1" thick material before coating; and patented recessed edges that form channels which help prevent roof blisters by equalizing the pressure of air trapped under roofing.

In roof insulation, as in everything else, *the payoff is in performance!* And no other roof insulation can challenge the *job-proved* record for quality, durability and economy set by Celotex Roof Insulation through over 25 years of actual use in all types of installations, all over the country.

Celotex Roof Insulation is low in initial cost, easy to handle, exceptionally durable. It speeds application, reduces labor costs, helps assure a superior, long-lasting roof that requires less maintenance.

So why take risks with untried materials? For complete satisfaction, always specify Celotex Roof Insulation. There's a type to meet every job requirement. Write now for complete technical data! The Celotex Corporation, Dept. AR-110, Chicago 3, Illinois.

**1. High Insulating Efficiency** means greater comfort the year 'round, plus reduced heating and air conditioning costs.

**2. Low in Cost** all three ways: initial, applied, maintenance.

**3. Quick, Thrifty to Apply:** installed with less time, work and cost because it's light and easy to handle. Strong and rigid—doesn't have to be "babied" on the job.

**4. Provides Excellent Bond** for hot mopped roofing felts of either the asphalt or coal tar pitch type.

**5. Durable, Long-Lasting.** It is the *only* roof insulation made of long, remarkably strong Louisiana cane fibres—and protected by the *exclusive* patented Ferox® Process against dry rot, fungus and termites.




*It pays to specify genuine*

**CELOTEX**
REG. U. S. PAT. OFF.

**ROOF INSULATION**

**The Celotex Corporation**
**Chicago 3, Illinois**




# New Lift for LOFT with PLEXIGLAS

**Daytime GLEAM . . . Nighttime GLOW**

Interior lighting gives this translucent, 3-dimensional PLEXIGLAS display *complete luminosity* at night—so that shape, design and colors are the same as in daylight. The giant PLEXIGLAS candy box is 11½′ long, 6½′ high, 10½″ deep, built of white translucent material with red and blue decorations and letters solvent-welded to background panels. Interior lighting consists of 20 mm cold cathode hairpins. Signs float in stainless steel frames and can be opened or removed for easy maintenance. Design: Van Sciver Associates, Philadelphia. Fabrication: Amplex Manufacturing Co., Philadelphia. Lighting and Erection: Modern Sign Advertising Co., Philadelphia.

When you want more impact in storefront identification *without* changing basic design—use PLEXIGLAS. The traditional storefront sign of this Loft Candy Shop in Philadelphia, for example, became three-dimensional and completely luminous when reproduced in this acrylic plastic.

PLEXIGLAS answers other design problems, too. Because it's so easily fabricated, it can be adapted to a wide variety of structural plans. PLEXIGLAS is shatter-resistant and light in weight (only half as heavy as glass), two mighty important properties in assuring low installation and maintenance costs. And too, its good weathering characteristics are important for long outdoor service.

**Send for Free Booklets Today**

For completely luminous signs and storefronts that gleam without glare, get full details of the *outdoor plastic*, PLEXIGLAS. Our new booklets, "PLEXIGLAS for Signs" and "PLEXIGLAS for Modern Storefronts" discuss properties, suggest uses, show applications. Write for them.




CHEMICALS FOR INDUSTRY

**ROHM & HAAS COMPANY**

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

*Representatives in principal foreign countries*

PLEXIGLAS *is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.*

Canadian Distributor: *Crystal Glass & Plastics, Ltd.*
*54 Duke Street, Toronto, Ont., Canada*

# *The World's Finest Locks*

## ARE OF PIN-TUMBLER DESIGN



Pin-tumbler security has been combined with economy, in the KWIKSET "400" Line Locksets, making possible top-quality locks at rock-bottom prices. Architects prefer KWIKSET's simplicity and beauty of design. Builders and contractors appreciate the economy of KWIKSET's fast, easy installation. Wholesalers, Jobbers and Dealers cash in on KWIKSET's low cost and fast turnover. Everyone deserves KWIKSET's precision construction with high quality materials that results in such amazing durability.*

Whether you need one lock or thousands, investigate KWIKSET's "400" Line pin-tumbler Locksets thoroughly before you buy. *Remember, every* KWIKSET *Lockset is unconditionally guaranteed.*

*IMPORTANT:* KWIKSET LOCKS, INC. *will soon be in production of their new "600" Line 6-pin tumbler cylindrical Locksets, of all steel and brass construction. Send for your copy of the new, colorfully illustrated catalog, giving full details of this new* KWIKSET *Lock.*

*Random selected KWIKSET Locksets were subjected to wear tests equivalent to 100 years of hard, everyday usage on our specially designed testing machine. Every lock functioned perfectly at the end of the test.

**Kwikset Sales and Service Company**

DEPT. B-11 • ANAHEIM, CALIFORNIA

kwikset LOCKSETS

400-20

# NEXT YEAR'S BOOM WILL BE DIFFERENT

**A statement on the construction outlook for 1951**

*By Thomas S. Holden, President, F. W. Dodge Corporation,*
*and Clyde Shute, Assistant Vice President; Manager,*
*Statistical and Research Division*

ARCHITECTURAL RECORD NOVEMBER 1950

# NEXT YEAR'S BOOM WILL BE DIFFERENT

## A statement on the construction outlook for 1951

*By Thomas S. Holden, President, F. W. Dodge Corporation,*

*and Clyde Shute, Assistant Vice President; Manager,*

*Statistical and Research Division*

TRANSFORMATION of this year's housing and consumer durables boom into next year's armament boom will naturally involve some curtailment of the record-breaking construction activity that has prevailed in 1950.

However, it is by no means certain that the 1950 boom could have continued into 1951, even if there had been no Korean crisis. By midsummer a number of key materials being produced at capacity levels were in tight supply, prices were moving up and the makings of a market reaction seemed to be in evidence. There was doubt in many minds whether the market would long continue to absorb new non-farm dwelling units at the rate of more than 1,300,000 a year; new motor vehicles at the rate of 9,000,000 a year; and new refrigerators, household appliances and furnishings, radio and television sets in peak quantities. There was serious question as to whether housing and consumer credit were not over-extended, whether easy credit added to federal deficit spending was not creating a highly inflationary situation.

### HOUSING CUTBACK

In view of this it was not surprising, when Regulation X, imposing restrictions on housing credit, was announced on October 10, 1950, that two reasons were cited in support of this action: (1) the need to curb inflation in the housing market; and (2) the need for conserving critical materials for defense purposes.

There does not yet seem to be any exact formula for measuring the effect of turning the inflation spigot on and off. Uncertainty prevailed when the government set about to reinvigorate the waning postwar housing boom in mid-1949. Up to the end of 1949, government economists and a number of others (including the writers of this article) anticipated housing volume in 1950 approximately equal to that of 1949. It turned out that the easy housing credit terms then in force, further credit easing in the spring of 1950 and the free spending mood of the public all combined to produce a volume of new housing 30 per cent greater than that of the previous record year 1949. The 1950 housing record was very closely paralleled by record-breaking production of motor vehicles and of other consumer durables.

While there can be no doubt that the new housing credit policy announced in Regulation X will appreciably curtail the volume of new housing construction, there is some uncertainty as to exactly how much curtailment will result.

Government officials announce the intention of cutting 1951 housing production back one third from the 1950 total volume; from approximately 1,300,000 to 850,000 new non-farm dwelling units. Home builders and other industry men are strongly of the opinion that the credit terms announced October 10 will reduce housing activity 50 to 60 per cent below the 1950 total volume. We incline to the opinion that Regulation X is quite severe and that its effect, unless modified, would be to reduce housing volume considerably more than one third. In our estimates we have assumed that Regulation X will be moderated some time next year, if such action actually proves necessary in order to produce in 1951 approximately two thirds of the 1950 housing volume. It is our view that 800,000 to 850,000 new non-farm units would adequately meet 1951 housing requirements. Single-family houses built on owners' order for

## TABLE 1: ESTIMATED PHYSICAL VOLUME OF BUILDING

(in accordance with contract records for 37 eastern states; figures in millions of sq ft)

| BUILDING CLASSIFICATION | ESTIMATE YEAR 1950 * | ESTIMATE YEAR 1951 | PERCENTAGE CHANGE |
|---|---|---|---|
| Commercial | 126 | 110 | − 13 |
| Manufacturing | 111 | 120 | + 8 |
| Educational and Science | 112 | 110 | − 2 |
| Hospitals and Institutional | 45 | 40 | − 11 |
| Public | 9 | 8 | − 11 |
| Religious | 30 | 22 | − 27 |
| Social and Recreational | 23 | 3 | − 87 |
| Miscellaneous Nonresidential | 25 | 20 | − 20 |
| **Total Nonresidential** | 481 | 433 | − 10 |
| Residential | 805 | 540 | − 33 |
| **Total Building** | 1286 | 973 | − 24 |

## TABLE 2: ESTIMATED NUMBERS OF NEW DWELLING UNIT STARTS

(in thousands)

| | ESTIMATE YEAR 1950 * | ESTIMATE YEAR 1951 | PERCENTAGE CHANGE |
|---|---|---|---|
| Dodge coverage basis | 690 | 450 | − 35 |
| BLS over-all basis | 1300 | 850 | − 35 |

## TABLE 3: ESTIMATED DOLLAR VOLUMES OF BUILDING AND ENGINEERING PROJECTS

(in accordance with contract records for 37 eastern states; figures in millions of dollars)

| CLASSIFICATION | ESTIMATE YEAR 1950 * | ESTIMATE YEAR 1951 | PERCENTAGE CHANGE |
|---|---|---|---|
| ***TOTAL (PRIVATE AND PUBLIC OWNERSHIP)*** | | | |
| Nonresidential | 5124 | 4614 | − 10 |
| Residential | 6529 | 4236 | − 35 |
| **Total Building** | 11,653 | 8850 | − 24 |
| Public Works and Utilities | 3000 | 3000 | 0 |
| **Total Construction** | 14,653 | 11,850 | − 19 |
| ***PRIVATE OWNERSHIP*** | | | |
| Nonresidential | 3240 | 2773 | − 14 |
| Residential | 6244 | 3886 | − 38 |
| **Total Building** | 9484 | 6659 | − 30 |
| Public Works and Utilities | 439 | 532 | + 21 |
| **Total Construction** | 9923 | 7191 | − 28 |
| ***PUBLIC OWNERSHIP*** | | | |
| Nonresidential | 1884 | 1841 | − 2 |
| Residential | 285 | 350 | + 23 |
| **Total Building** | 2169 | 2191 | + 1 |
| Public Works and Utilities | 2561 | 2468 | − 4 |
| **Total Construction** | 4730 | 4659 | − 2 |

**Nine months actual, last three months estimated*

owners' occupancy are likely to decline less, percentage-wise, than houses built for sale by operative builders.

## NONRESIDENTIAL BUILDING

Private nonresidential building participated in the 1950 boom only to a minor degree. A large increase in store building was the natural accompaniment of the housing boom; office building, quiescent for a long period, perked up to a degree; new church building continued to increase. Private industrial building turned upward in the second quarter and made substantial gains. However, there was no appreciable volume of nonresidential building in 1950 that could be appropriately called speculative.

Among public building classifications, schools continue in strong demand. Hospital needs continue large, but plans for expanded federal aid were cut back by the Budget Bureau and the President, as an economy measure. The government's October 27 limitation order on certain types of amusement buildings is apt to be a minor factor in the over-all picture.

Among the nonresidential building classifications, increased volume of manufacturing buildings is indicated in the estimate table, on the ground that government will encourage expansion of plant capacity in nearly every line of manufacturing. Moderate declines are estimated for all the other nonresidential building classifications; among these, social and recreational projects are expected to drop off by the largest percentage, as a result of the limitation orders of October 27.

Net result of estimated declines in all building classifications except one, and of an estimated increase in that one (manufacturing building) is an estimated decrease of 24 per cent new building floor space and a 23 per cent decrease in dollar volume of building contracts.

In the field of heavy construction, we estimate that reduced expenditures for public works will be offset by increased expenditures for utilities. Public works expenditures are likely to be cut back by reason of reduced federal aid and by direct requests of federal authorities to state and local officials urging them to hold construction programs down, or for economy reasons. On the other hand, privately owned power companies will be strongly encouraged to increase capacity and to build new plants.

## MODERATE OVER-ALL DECLINE

The estimated over-all decline of 19 per cent in dollar volume of building and engineering contracts to be awarded in the 37 eastern states is a moderate one, all things considered. This is a cutback from the peak construction volume of all time; it leaves a dollar total measurably greater than that of any year except 1950, and a physical volume total that would compare favorably with other prosperous construction years.

We question whether there will be much change in the level of construction costs in 1951. Some materials will be tight; others which were tight in 1950 will be plentiful and competitively priced. Demand for building labor will ease somewhat with reduced construction volume, though doubtless many men who have been employed in construction in 1950 will shift to defense production in 1951.

The moderate extent of the anticipated decline in next year's over-all construction activity rests on the following considerations:

1. The nation's program is at present one of substantial but partial remobilization, not the kind of total mobilization required by all-out global war; armament in 1951 may require 10 to 15 per cent of the country's total physical production, certainly much less than the 40 per cent that was required for World War II.
2. Armament requirements will be met as far as possible by increasing production of key materials.
3. Next year's cutbacks in construction volume will be accompanied by similar cutbacks in output of motor vehicles, household appliances, radio and television sets, etc. Combined cutbacks of these products plus housing will contribute enormous quantities of critical materials to the armament program.
4. Ingenuity in conserving critical materials and in utilizing substitutes will count appreciably in the over-all supply situation.
5. Responsible leaders in government hold the view that a strong civilian economy with maximum freedoms is just as essential for preparedness as is an enlarged military establishment; while adjustment of the economy is essential, dislocations will be kept to a minimum.

These views are largely in accord with the consensus of an opinion survey among leading economists which was conducted by F. W. Dodge Corporation during October 1950. In general, the survey indicated that adjustments to the armament economy would be made without major dislocations.

In passing, it should be explained that, while the opinions of these 106 economists have been given much weight in our appraisal of background conditions and of construction trends, we consider that medians or averages of figures on construction volume submitted are merely convenient summaries of questionnaire answers. In making our own construction estimates, we have given considerable weight to factors impossible to cover satisfactorily in an opinion poll.

Adjustments of the country's production program to the requirements of the armament economy will certainly continue through the first half of next year, perhaps longer. During the period of adjustment there will be some confusion; but, barring new developments which would radically alter the present program, armament production should be getting into full stride in the second half of 1951. By that time, there may be a much clearer definition of the continuing relationship between military and civilian production than is possible now.

## CONTINUING CONSTRUCTION NEEDS

Continuing construction needs of an armament economy are considerable. Thus far the only important construction demands arising directly from the armament program are for power and manufacturing plant facilities. These demands will be large, since the needs of the civilian economy will expand along with the growth and development of defense production. Of strictly military construction there is very little now in sight; what there is consists principally of specialized types of technical installations. As yet there is no indication that additional cantonments, air bases or naval bases will be needed in any large amount.

Basic construction needs of the prosperous and growing civilian economy will continue. A too rigorous restriction of truly essential civilian construction could weaken rather than strengthen the war effort.

Basic housing needs continue to be relatively high. Net new family formations are continuing currently at an estimated rate of 550,000 a year. There are always certain replacement needs arising from fire and storm losses, demolitions to make way for nonresidential improvements, and abandonments of deteriorated structures. In addition, migration of families to active industrial centers tends to augment housing demand in those particular areas. The continuing basic demand may possibly average from 800,000 to 850,000 new non-farm dwelling units a year (some estimates are higher than that).

In addition, there will be needs for increased commercial and community service facilities in growing areas. School needs are particularly pressing; expanded hospital facilities will be demanded; new church buildings will be wanted.

So long as our economy is an armament economy and not a war economy, essential construction needs can be met. Unless the scale of the armament effort is increased beyond present plans, armament production will at some stage get into full stride and may from that time involve a fairly constant, rather than a continually increasing, volume of materials and productive effort. It is entirely possible that by the time such conditions are reached, our problems of adequate supply for both civilian and armament economies will have been largely solved. This country's capacity to increase productivity is tremendous.

## NO MORE ARTIFICIAL STIMULATION

In one very important sense the status of the construction industry is radically changed. It has been suddenly superseded by the armament industry as the government planners' favorite vehicle for federal spending and for stimulating full employment. However, the growth momentum and the prospective expansion of the American economy are so great that a continuously large construction demand may be expected without artificial government stimulation.

## CONTROL PROSPECT UNCERTAIN

The extent to which direct controls or limitation orders may be imposed on the construction industry is unknown today. Credit restrictions have already curtailed the output of one- and two-family houses. Supplementary credit curbs are expected, which would reduce the volume of apartment building. Credit restrictions, however, would accomplish little toward reducing the volume of private nonresidential building.

Credit curbs on housing and consumer durables will effectively reduce demand for a number of critical materials. If critical materials so conserved, supplemented by added production, could adequately balance out the material requirements of stepped-up defense, there would obviously be no need for any direct limitations or prohibitions to be laid on any specific types of construction projects.

Furthermore, if increased personal income taxes are sufficient to reduce the take-home pay of a large majority of the people, this factor of reduced disposable personal income will be an added discourager of consumer spending. If this set of factors would operate perfectly there would be no need of price and wage controls.

Obviously, the transition to the armament economy cannot be expected to work as smoothly and precisely as that. There will be some stresses and strains; there will be from time to time considerable variations as to the supply situation of different critical materials. If some uncontrolled civilian activities (which might include particular categories of building operations) should suddenly increase in volume to the point of interfering with defense procurement, it is quite likely that limitation orders would be imposed.

However, an armament program approximating one third the size of a full-scale war mobilization should not require the full range of controls as applied in World War II. It is conceivable that certain controls or limitations might be imposed to meet a particular defense procurement problem and later relaxed after the supply situation has improved.

In short, the present prospect is that controls will be imposed on a more or less experimental basis. Apparently, the dominant thought in responsible government circles today is that controls should be kept to a minimum. There is realization that the freest possible economy with incentives to expand production will achieve the most toward meeting the needs of the national crisis.

However, it must be emphasized that the possibility of sudden, unexpected, drastic action by government greatly augments the customary hazard of guessing future construction activity. More than ever it is necessary for those who make or follow advance construction estimates to review and revise their figures frequently.

## WHAT LEADING ECONOMISTS EXPECT

DURING the month of October, F. W. Dodge Corporation questioned by mail a panel of leading economists regarding their expectations for the year 1951. Among the 106 respondents exactly half were economists on the staffs of private business, financial and management consulting organizations; the other half were connected with marketing, finance and economics departments of universities.

The general consensus of opinion among the 106 may be summarized as follows: armed hostilities will not increase measurably in 1951; over-all volume of production in the United States will increase in spite of cutbacks in construction and in production of a number of consumers' durable commodities; wholesale and retail prices will trend upward but not at runaway speed; a small minority expects rationing of consumer goods next year; less than half the respondents expect limitation orders (other than credit curbs or other indirect controls) on household equipment, housing, private and public nonresidential construction, while small majorities expect general wage and price controls and limitation orders on motor vehicles and radio and television sets; most frequently mentioned 1951 inflation threat was the prospect for wage increases.

### *Hostilities*

As a background question, this was asked: "Do you expect armed hostilities in 1951 on a measurably larger scale than in 1950?" Eleven answered "yes," 92 answered "no"; three did not answer.

Principal difference among those who answered "yes" and those who answered "no" on this question was that those who answered "yes" tend to expect more severe controls next year.

### *Limitation Orders*

The question was posed as to whether direct specific limitation orders (other than credit curbs) would be placed on specific categories of goods. For the most part the division on this question was fairly close, as indicated by the following table:

| Class of goods | Expect L-orders | Do not expect L-orders | No answer |
|---|---|---|---|
| Motor vehicles | 59 | 44 | 3 |
| Radio and television sets | 53 | 47 | 6 |
| Household equipment | 50 | 50 | 6 |
| Housing | 45 | 54 | 7 |
| Private nonresidential building | 42 | 56 | 8 |
| Public construction | 34 | 63 | 9 |

Probable dates of limitation orders indicated by those who expect them are second quarter 1951 for motor vehicles and house equipment, first quarter for radio and television sets and various categories of construction.

### *Reduced Output*

In view of credit curbs, shortages of critical materials and possible L-orders, cutbacks in output of certain goods which have boomed in 1950 are generally expected. Economists were asked to guess at the probable extent of such cutbacks. Tabulated results were as follows:

| Class of goods | Range of expected decline | Median percentage decline |
|---|---|---|
| Passenger cars and trucks (non-military) | 0–40% | 20% |
| Household equipment | 0–50% | 15% |
| Radio and television sets (for civilians) | 0–50% | 20% |

### *Construction Volume*

A series of questions was asked on anticipated 1951 changes in the pattern of construction activity.

RESIDENTIAL BUILDING: Declines from 1950 ranging from 0 per cent to 50 per cent were indicated.

In the business group the median expectation was for a 30 per cent decline in number of new dwelling units to be started in 1951, as compared with 1950 volume; in the university group, the median expectation was for a 20 per cent decline; median among all responses, 25 per cent decline.

MANUFACTURING PLANTS: One third expect declines, two thirds expect increases, in manufacturing plant construction next year. Median expectation is for a five per cent increase.

PUBLIC CONSTRUCTION: Dollar volume of public building and engineering contracts is expected to increase. Median expectation is a 10 per cent increase.

PRIVATE NONRESIDENTIAL BUILDING, other than manufacturing plants: Dollar volume of contracts in this general group is expected to decline; median expectation, 15 per cent.

### *Industrial Production*

Economists expect over-all industrial production to increase through next year. The Federal Reserve Board index of physical volume of production stood at a peacetime high of 208 in August. Expectations of the economists at several future dates were reported as follows:

| Date | Range of Expectations | Median Expectation |
|---|---|---|
| December 1950 | 190–230 | 210 |
| June 1951 | 180–250 | 215 |
| December 1951 | 180–260 | 220 |

### *Rationing*

On the question: "Do you expect rationing to consumers before the end of 1951?" a clear majority of 75 voted "no" to 30, "yes"; one economist made no commitment on the question.

### *General Wage and Price Controls*

On the question of whether there will be general wage and price controls before the end of 1951, 57 answered "yes," 47 answered "no," and two did not answer.

Among the 57 expecting controls, majority expectation is that they will be imposed before June 30, 1951.

### *Wholesale Prices*

Majority expectation is for steady increase in prices of commodities at wholesale. The U. S.

Bureau of Labor Statistics Index for wholesale prices of all commodities stood at 170 in mid-September. Economists' expectations at future dates were reported as follows:

| Date | Range of Expectations | Median Expectation |
|---|---|---|
| December 1950..... | 160–180 | 172 |
| June 1951..... | 160–200 | 175 |
| December 1951..... | 156–200 | 180 |

Judging from the median figures, the consensus of opinion appears to be that wholesale price rises will be fairly moderate.

### *Cost of Living*

Majority expectation is for moderate increase in cost of living through the first half of 1951, minor change thereafter. The U. S. Bureau of Labor Statistics consumers' price index stood at 172.5 last mid-July. Economists expect it to stand on future dates as follows:

| Date | Range of Expectations | Median Expectation |
|---|---|---|
| December 1950..... | 165–182 | 175 |
| June 1951..... | 167–200 | 179 |
| December 1951 ..... | 165–210 | 180 |

According to the median figure, the consensus of opinion is that rises in living costs will be moderate.

### *Inflation Threats*

In order to elicit opinions on economic factors threatening inflation in 1951 the following question was asked: "What, in your opinion, will be the most potent inflation threat in the United States economy in 1951?"

Since a number of respondents cited two or more factors, the total number of items mentioned was 141.

The largest single category of factors cited, 62 in number, concerned wages, wage increases, disposable income increases greater than new taxes, inadequate tax impact on lower incomes, and similar aspects of wages.

Next in line came 50 citations of federal deficit spending, government spending, increasing public and private debt.

Certain aspects of fiscal management rated 17 mentions, such as: unsound federal budget and fiscal policies, monetization of debt, credit expansion and cheap money policy, failure to resolve policy differences between the Treasury and the Federal Reserve Board, inadequate use of fiscal measures to prevent inflation.

Other inflationary factors were mentioned, including: cashing of bonds and savings account withdrawals, public expectation of rising prices, unnecessary price markups, farm price supports, increased consumer expenditures, scarcity of hard goods, and so on.

PARTICIPANTS in the survey, besides several who asked anonymity, were:

Adolph G. Abramson, SKF Industries; Eugene E. Agger, Rutgers; R. S. Alexander, Columbia; W. E. Alley, Drake U.; Harold E. Aul, Calvin Bullock; Sherwin C. Badger, New England Mutual Life; Robert W. Bailey, United Air Lines; Harold B. Baker, General Motors Institute; C. Canby Balderston, Wharton School of Finance; Horace R. Barnes, Franklin & Marshall Col.; Claude L. Benner, Continental American Life; Chelcie C. Bosland, Brown U.; F. A. Bradford, Lehigh; Waite S. Brush, Consolidated Edison.

Robert W. Burgess, Western Electric; Francis J. Calkins, Marquette U.; Cecil C. Carpenter, Kentucky U.; William A. Carter, Norwich U.; Homer V. Cherrington, Northwestern; Phillip S. Clements, Loomis, Sayles & Co.; Miles L. Colean; Neil Carothers, Lehigh; G. Sidney Houston, First Service Corp.; Donald R. Cowan, Michigan U.; W. W. Cumberland, Ladenburg, Thalmann & Co.; D. H. Davenport, NYS Dept. of Commerce; Bernard W. Dempsey, S.J., St. Louis U.; W. M. Dennis, American Cyanamid; Lloyd E. Dewey, N.Y.U.; Charles A. Dice, Ohio State; W. J. Donald, Natl. Elec. Mfrs. Assn.

H. P. Dutton, Ill. Institute of Technology; Lionel D. Edie, Lionel D. Edie & Co., New York; Leonard M. Ekland, Detroit U.; B. E. Estes, U. S. Steel; Bruno Foa; Morris D. Forkosch, Brooklyn Law School; Harold G. Fraine, Wisconsin U.; Roy L. Garis, U.S.C.; Edwin B. George, Dun & Bradstreet; Charles A. Glover, A. T. & T.; Albert Haring, Indiana U.; William F. Hauhart, St. Louis U.; Walter E. Hoadley Jr., Armstrong Cork; Walter M. Hollowell; Louis Hough, Pittsburgh U.; William R. Spurlock, Eli Lilly Co.; Kenneth V. James; O. H. Jekel, Reliable Life; Hiram L. Jome, DePauw; M. J. Jucius, Ohio State; J. S. Kerr, Dennison Mfg.; Donald L. Kemmerer, U. of Ill.; Fred I. Kent, Bankers Trust, New York.

Edmund R. King, Eastman Kodak; Willford I. King; Oswald Knauth; Earl L. Knight; O. N. Kolquist, Natl. Lumber Mfrs. Assn.; Richard L. Kozelka, U. of Minn.; Richard O. Lang, S. C. Johnson & Son; Walter Lichtenstein; Robert L. Linder; Merten J. Mandeville, Ill. U.

Stewart M. Marshall, consulting engr.; Alonzo B. May, Denver U.; Robert W. Mayer, Ill. U.; H. B. Meek, Cornell; Oswald E. D. Merkt, Pa. Co. for Banking & Trusts; D. W. Michener, Chase National Bank; John P. Miller, Yale; Ragnar D. Naess, Naess, Thomas & Thielbar; M. P. Niefeld, Beneficial Management Corp.; Frank D. Newbury; A. S. Newmeyer, Shell Oil; Paul H. Nystrom, Columbia; Elmore Peterson, Colorado U.; Virgil D. Reed, J. Walter Thompson Co.; Roy L. Reierson, Bankers Trust; J. H. Riddle, Bankers Trust; R. G. Rodkey, Michigan U.; John G. Rolph.

John H. Sadler, Kroger Co.; Benedict Saurino, Sun Oil; Lloyd L. Shaulis; Nathan L. Silverstein, Indiana U.; George Soule, Bennington Col.; William R. Spriegel, Texas U.; Wayne M. Stevens; John R. Stockton, Texas U.; W. Bayard Taylor, Claremont Col.; William A. Thomson Jr.; Loyal G. Tillotson, Bradley U.; Charles S. Tippetts, Mercersburg Acad.; James B. Trant, Louisiana State U.; Rufus S. Tucker, General Motors; Q. Forrest Walker, R. H. Macy; Lawrence L. Waters, Indiana U.; Ray B. Westerfield, Yale.

Edward F. Willett, Smith Col.; John B. Williams; E. W. Wilson; Charles S. Wright, Fed. Res. Bank, Chicago; David M. Wright, Virginia U.; Wilson Wright, Procter & Gamble; E. G. Bennion, Standard Oil, N. J.

## A.I.A. CENTRAL STATES DISTRICT HAS BIGGEST CONFERENCE; VIRGINIA, CALIFORNIA UNITS MEET

HIGH ATTENDANCE and increasing enthusiasm for the conference idea are reported from three recent meetings of units of the American Institute of Architects.

The largest of these units, the Central States District, which held its annual meeting at Omaha October 13–14, reported the biggest attendance on record for sessions which were generally said to be the most stimulating ever arranged by the district.

With District Director Lorenz Schmidt presiding at most sessions, the architects heard two speeches which provided fodder for a lot of the corridor discussions on "the situation."

Thomas S. Holden, president of F. W. Dodge Corp., warned against either minimizing or magnifying the import of the limited mobilization program: "What we face is an adjustment, not a disruption, of the national economy."

A.I.A. Executive Director Edmund R. Purves urged architects to bulwark the Institute's active emergency program by making recommendations and providing information about themselves and problems on the local level.

On more general themes, the program included speeches by Dean William Wurster, University of California School of Architecture; Harold D. Hauf, editor of ARCHITECTURAL RECORD; Marshall Schaffer, U. S. Public Health Service; Engineer Fred Severud and Architect Roger Allen.

### *Virginia Chapter Sessions*

One hundred members of the Virginia Chapter held their annual Fall meeting October 5–7 in Roanoke. Throughout the three-day sessions, small groups huddled in talk over upset conditions in the building industry, but the consensus of opinion seemed to be that things could be a lot worse.

Despite advance billing by Virginia newspapers as a touchy subject, the report on the Chapter's scheme for stock plans for small public schools created little actual excitement. Chapter President Marcellus Wright Jr. merely reported to the membership that a committee from the Chapter had been named to work with the State Board of Education on the matter. State school officials have asked the architects for assistance in the efficient planning of

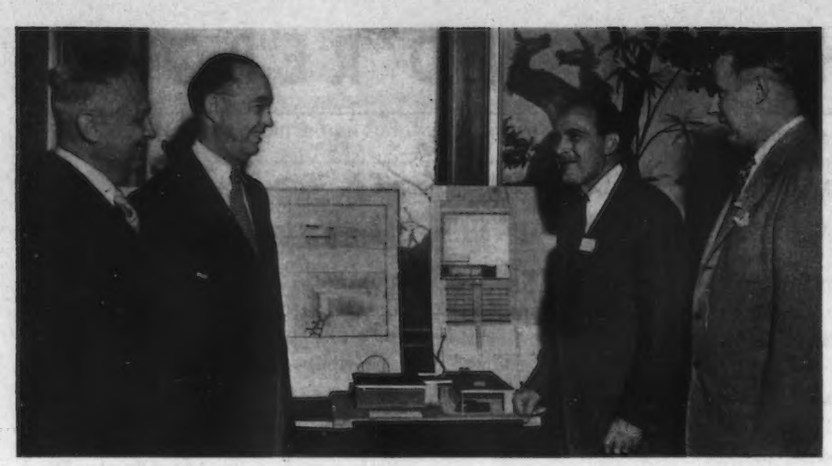


*President McNett of the host association and District Director Schmidt talking about one of the architectural exhibits at Omaha convention*

Colortography Photos



*At Omaha: Marshall Schaffer; Mrs. Lorentz Schmidt; Col. H. F. Cunningham of Lincoln, who introduced Speaker Edmund R. Purves; Lorentz Schmidt; Mr. Purves; Frank N. McNett, Nebraska Architects president, and Lyle A. Lydick, secretary; Harold D. Hauf; Fred N. Severud; Dean Wurster; Chairman Linus Burr Smith, Department of Architecture, University of Nebraska*



Roanoke World News Photo

*Virginia Chapter officials and their guests (left to right): District Engineer R. S. Hummel, U. S. Community Facilities Service; A.I.A. Regional Director C. E. Silling; Chapter President Marcellus Wright Jr.; and H. B. Boynton, program chairman for session*

## A.I.A. MEETINGS

*(Continued from page 9)*

the new $45 million school building program.

Most unpleasant of the subjects reported on and discussed at the meeting was a tax decision by State and City officials. The Old Dominion has extended the gross receipts tax, previously applied to firms alone, to every professionally registered person in the State. Cities in the state also plan to extend their gross receipt levies to include anyone registered, whether a principal or associate of a firm or on salary.

Regional Director Cyrus Silling and Holman Willis addressed the two banquets.

### *California Council Meets*

From California, too, comes the report that an attendance of 450 architects topped all records at the sixth annual convention of the California Council of Architects.

The two-day meeting at Yosemite's Ahwahnee Hotel was highlighted by a progress report from the Council's new executive secretary, Frederick Chase, on the achievements of its intensive public relations program.

Talks by several of the special speakers outlined the opportunities for private architects and engineers in the defense construction program, and a message from Thomas S. Holden, president of the F. W. Dodge Corp., discussed the status of the construction industry in an armament economy.

Tops in popularity among the several seminars were the provocative sessions on "The Young Man in the Institute" and "Schools of Architecture — their Relation to Architects and Architectural Practice."

*Architectural exhibit of hospitals was arranged by A.H.A. with A.I.A. cooperation*

Fred Hess & Son Photo



## ARCHITECT AND DEFENSE DISCUSSED AT MEETING

AN INFORMAL DINNER conference was held October 16 at the Architectural League of New York, for a round-table discussion on the place of the independent architect in defense construction. Representatives of the U. S. Corps of Engineers, the A.I.A., and the architectural press were present.

Col. Edwin Ketchum, Commander, New York District, U.S.C.E., and Charles K. Panish, of the civilian staff, stated that if a national defense program is set up, the government will need to rely heavily on the services of independent architects. The discussion included suggestions on how both large and small architectural offices might best be employed in such work.

Harry M. Prince, vice chairman of the A.I.A. Committee on National Defense, pointed out the steps the A.I.A. already has taken to secure a place for the independent architect in such a program, and to insure close cooperation of the A.I.A. with the various government agencies.

## HOSPITAL GROUP ADOPTS OWN APPROVAL PROGRAM

AUTHORIZATION of its own hospital approval program at an estimated cost of $100,000 a year was the biggest news from the 52nd annual convention of the American Hospital Association this Fall.

Membership dues were increased an average of 58 per cent to finance the program, which was adopted over the strong objections of the American Medical Association. The American College of Surgeons had decided to drop the approval program which it has conducted for the past 25 years. Criteria for approval will continue to include physical facilities, balanced representation of medical specialties, medical records, etc.

Of major architectural interest was an all-day seminar on problems in hospital design. Presenting the architect's point of view on successive panels were Aaron Kiff, A.I.A., of York and Sawyer, New York; Carl A. Erikson, A.I.A., of Schmidt, Garden and Erikson, Chicago; George Holderness, A.I.A., of Eggers & Higgins, New York; and Arthur G. Stephenson of Stephenson & Turner, Melbourne, Australia. Two half-day sessions for architects also were held.

Other major convention developments included a resolution asking restoration of a proposed $75 million cut in Hill-Burton funds.

## MOST REPRESENTATIVE BUILDINGS, 1925–1950? 58 ARCHITECTS RESPOND TO ANOTHER'S "POLL"

FIFTY-EIGHT contemporary architects have joined a historical parade by turning speculative eyes on the panorama of recent American architecture.

They were pulled into the ranks by Howard Dwight Smith, of Ohio State University's Department of Architecture and Construction, who hoped to find by a sampling of current professional opinion a list of structures which might be accepted as bases for analyzing the architectural trends of the time.

Several months ago Mr. Smith sent queries to 140 architects selected by him as reflecting "a broad cross-section of architectural interest covering a wide geographical area."

His question was: "Based on your snap judgment and without benefit of extensive research, what American buildings of 1925 to 1950 will in your opinion be accepted as examples of the best architectural expression of the period?"

The 58 architects who sent lists in response named Radio City more times than any other project. It got 40 "votes," while the next-most-frequently-named, Cranbrook, had 25.

Next in order came the Philadelphia Savings Fund Society building and Falling Water, with 20 "votes" each; and the United Nations Secretariat, Taliesin West and the Nebraska State Capitol, each listed by 14 architects.

Altogether, 135 buildings or integrated projects were named; 60 only once, 18 only twice, five only three times, and six only four times. Most lists named 10 or 12 buildings, but one named 18 and one named only three.

Two of the buildings which were mentioned most frequently might on the strictest interpretation of Mr. Smith's question have been disqualified by a date: the Nebraska State Capitol was actually designed before 1925 but not in use till 1927. But, says Mr. Smith, "Surely the license which includes the presently uncompleted U.N. Secretariat at this end of the quarter-century could not exclude Nebraska at the other. . . ."

The 12 architects who responded without naming any projects included Frank Lloyd Wright, whose reply was terse: "Dear Smith, How am I to know and comparisons are odious anyway."

Except for four who wished to remain anonymous, these are the architects whose lists were tabulated:

Edgar Albright, New York City; Frederick C. Backus, Buffalo; C. Dale Badgley, New York City; Turpin C. Bannister, Urbana, Ill.; Pietro Belluschi, F.A.I.A., Portland, Ore.; Wells Bennett, F.A.I.A., Ann Arbor, Mich.; Cyrus Y. Bissell, Minneapolis; Kenneth C. Black, F.A.I.A., Detroit; Arthur T. Brown, Tucson, Ariz.; Herman Brookman, Portland, Ore.; Charles Butler, F.A.I.A., New York City; John E. Burchard, Boston; William W. Caudill, College Station, Tex.; DeVon M. Carlson, Boulder, Colo.; Henry S. Churchill, New York City; Gilmore D. Clarke, Ithaca, N. Y.; George B. Cummings, F.A.I.A., Binghamton, N. Y.; G. B. Cummings Jr., Ithaca, N. Y.

Arthur F. Deam, Philadelphia; James R. Edmunds Jr., F.A.I.A., Baltimore; Charles E. Firestone, F.A.I.A., Canton, Ohio; Paul Gerhardt Jr., F.A.I.A., Chicago; Howard Greenley, New York City; Walter Gropius, Boston; Olindo Grossi, Brooklyn; Talbot Hamlin, New York City; Talmadge C. Hughes,

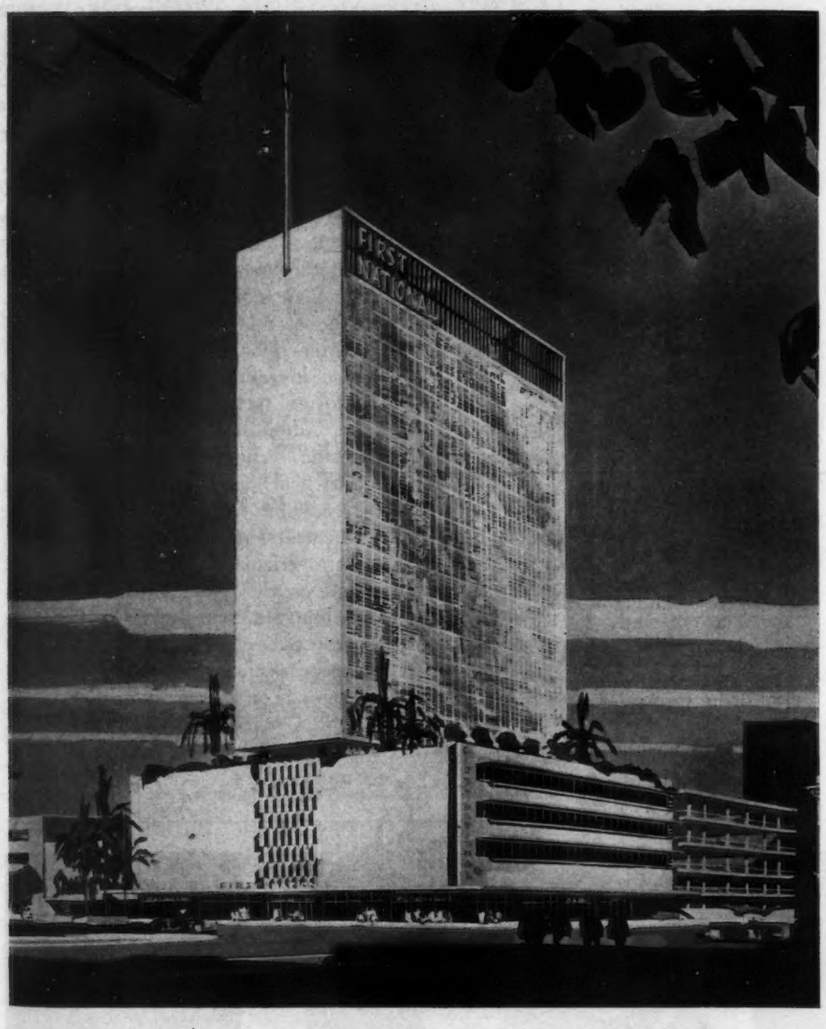


*Photo of rendering shows projected building for First National Bank of Arizona, soon to be under way. Welton Becket is the architect for the new skyscraper, which will have two walls entirely of glass and a "floating screen" of fixed aluminum louvers protecting the top 12 stories of the south elevation from the intense heat of the desert sun. The 180-ft screen, described as resembling in appearance a gigantic, glittering Venetian blind, will be suspended a few ft from the facade it covers and is so designed that it will not obscure the view from the office windows. The device has been engineered to cut air conditioning costs to a minimum. The building will contain 200,000 sq ft, with provision for future erection of a semi-attached "spiral" garage. Sawtooth staggered stalls outside will be provided for "drivein" service. The entire fifth floor will be a landscaped terrace for employees*

F.A.I.A., Detroit; Kenneth Johnstone, Pittsburgh; Henry L. Kamphoefner, Raleigh, N. C.; Morris Ketchum Jr., New York City; Francis W. Kenwick, South Bend, Ind.; Walter H. Kilham Jr., New York City; Fiske Kimball, Philadelphia.

Roy F. Larsen, F.A.I.A., Philadelphia; Samuel E. Lunden, F.A.I.A., Los Angeles; Electuo D. Litchfield, New York City; Marian I. Manley, Coral Gables, Fla.; Professor Meador, College Station, Tex.; Everett Meeks, F.A.I.A., New Haven; Novarre Musson, Columbus, Ohio; James H. Mitchell, F.A.I.A., San Francisco; Douglas W. Orr, F.A.I.A., New Haven; Milton S. Osborne, State College, Pa.

Lawrence B. Perkins, Chicago; Herbert J. Powell, F.A.I.A., Los Angeles; John N. Richards, Toledo; Louis Skidmore, F.A.I.A., New York City; R. J. Smith, New York City; William J. Smith, F.A.I.A., Chicago; Glenn Stanton, F.A.I.A., Portland, Ore.; William Ward Watkin, Houston, Tex.; Harold B. Willis, F.A.I.A., Boston; Addison F. Worthington, Baltimore; Morgan Yost, Chicago.



New York Central Photo

## NEW YORK CENTRAL OPENS FIRST STATION IN 20 YEARS

ELABORATE DEDICATION ceremonies were staged by the city of Toledo to mark the opening in September of its new $5 million Union Station (photo above), the first station built by the New York Central System in two decades.

The structure, which has exterior walls of yellow brick and glass block, is built on four levels, with a sublevel utility room which contains equipment rooms, transformers and storage facilities.

Waiting rooms, restaurant and ticket offices are on the main or third floor, entered by passengers from the Plaza. Covered ramps and stairways lead to track locations.

On the first floor are operating and maintenance offices and baggage room. On the second level are sleeping quarters for train crews between runs — an innovation in railroad planning — and an employees' recreation room and restaurant. Administrative offices and dispatching facilities are located on the fourth floor, a mezzanine built around the two-story-high waiting room.

There are windows in the concourse walls overlooking the tracks. Paired arches provide entrances to stairways and ramps, with a system of lights to control passenger traffic flow. Ticket counters are open. Throughout interiors, emphasis is on easy maintenance.

R. L. Corsbie of the New York Central Architectural Department was project architect.

### 58 ARCHITECTS LISTED THESE BUILDINGS:

| *Project* | *Year* | *Architects* | *Times Listed* |
|---|---|---|---|
| Radio City | 1931† | Reinhard & Hofmeister<br>Corbett, Harrison & MacMurray<br>Hood & Fouilhoux | 40 |
| Cranbrook | 1925† | Eliel Saarinen | 25 |
| Philadelphia Savings Fund Society | 1932 | George Howe and William Lescaze | 20 |
| Falling Water | 1937 | Frank Lloyd Wright | 20 |
| United Nations Secretariat | 1949 | United Nations Headquarters Planning Commission; Wallace K. Harrison, Director | 14 |
| Taliesin West | 1938 | Frank Lloyd Wright | 14 |
| Nebraska State Capitol | 1925 | Bertram G. Goodhue & Assocs. | 14 |



## PRODUCERS' COUNCIL ELECTS OFFICERS

*Officers elected at the recent meeting in New York City of the Producers' Council, Inc., are pictured above: (left to right) president—A. Naughton Lane, vice president, Monarch Metal Weatherstrip Corp., St. Louis; first vice president—Elliott C. Spratt, vice president, Hillyard Sales Co., St. Joseph, Mo.; second vice president—R. S. Hammond, vice president, Johns-Manville Sales Corp., New York City; secretary—Charles A. Snyder, president, Richmond Screw Anchor Co., Inc., New York City; treasurer—F. J. Close, manager of architectural sales, Aluminum Company of America. P. C. was created as an A.I.A. affiliate in 1923*

# NEVER Ventilate a Ceiling or Wall Space to the Inside...

*If you do, the better the insulation, the worse will be the condensation; for the colder the air in the space between insulation and roof, or walls, the less vapor can it support.*

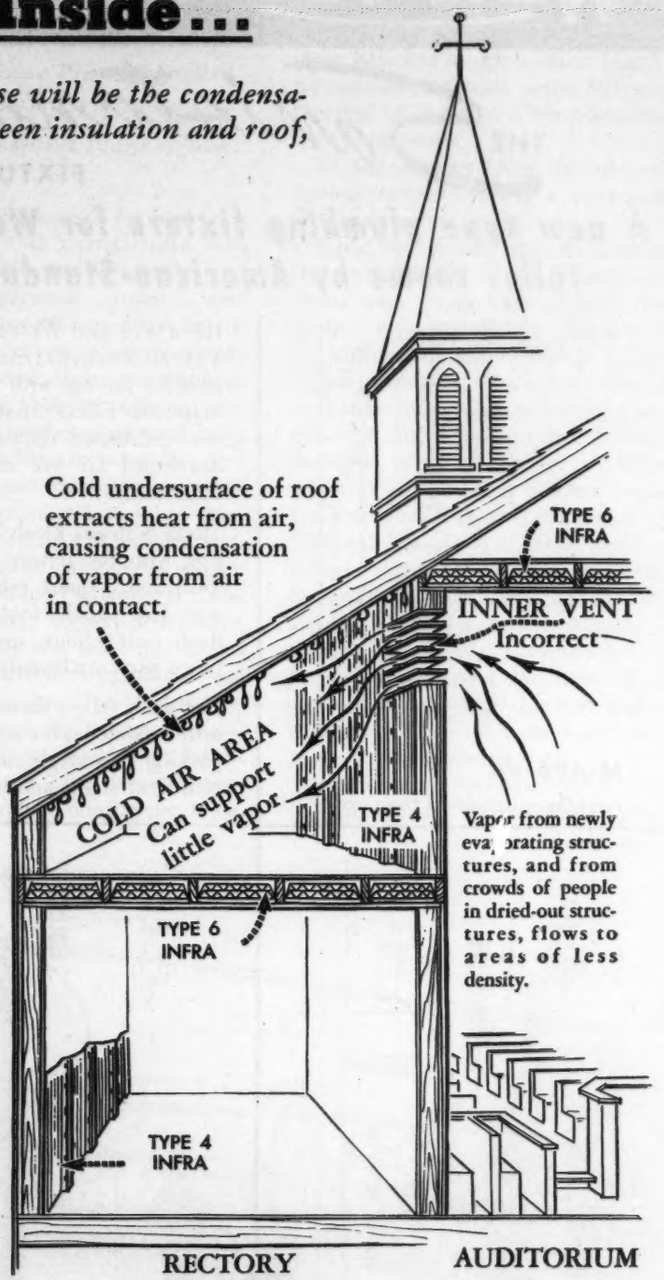
In new construction, thousands of tons of cement and plaster are evaporating. Vapor flows from areas of greater density into this small, cold space, an area of less vapor density and small capacity.

Multiple sheets of accordion aluminum, because impervious to vapor, force out through exterior walls and roofs, ordinary amounts of fortuitous vapor formed from rain leaks, etc. With unusual amounts of vapor, as from crowds, in theatres, schools, stores, etc. provision should also be made to vent this vapor to the *outside.*

**In the illustration, an actual case, it was recommended that the inner vents above the insulation be eliminated. More details about this frequent error and other data on vapor flow and condensation sent on request.**

Three-sheet accordion aluminum, permanently separated by fiber partitions, is commercially available as Type 6 Infra, and costs less than 9¢ sq. ft., material with labor, installed between wood joists in new construction.

Get valuable FREE copy of new, revised "Simplified Physics of Vapor and Thermal Insulation," authoritative, simply written 44-page manual. Covers heat and vapor flow, condensation, radiant heating, radiation, convection and conduction. Tells how to test insulations yourself and experiment with heat flow. Contains chart of *k*, C, R, and U factors of all insulations, of all thicknesses, weights, densities.




**THERMAL FACTORS, TYPE 6 INFRA**

**Down-Heat C.044, R22.72 equals 7½" DRY Rockwool**
**Up-Heat C.080, R12.50 equals 4" DRY Rockwool**
**Wall-Heat C.073, R13.69 equals 4½" DRY Rockwool**

**VAPOR PERMEABILITY equals ZERO**

**INFRA INSULATION, INC.**
**10 Murray Street New York, N. Y.**
**Telephone: COrtlandt 7-3833**

INFRA INSULATION, INC.
10 Murray Street, New York, N.Y. Dept. R 11
Please send "Simplified Physics of Vapor and Thermal Insulation."

Name_____

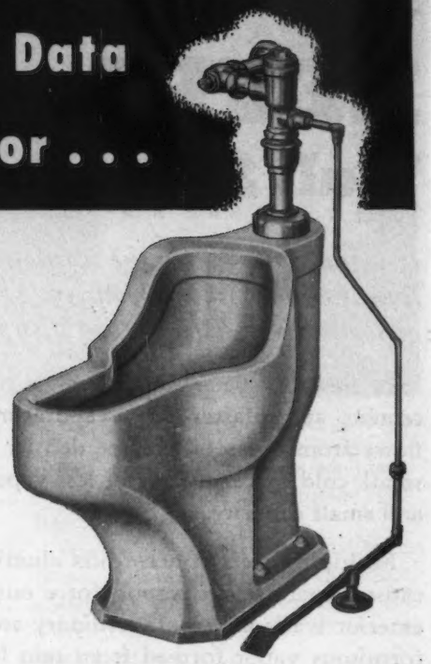
Firm_____

Address_____

☐ Send Prices of Infra Insulations ☐ Send Sample

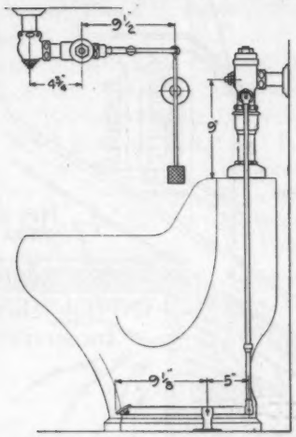
# Installation and Specification Data

# Watrous Flush Valves for . . .



## THE *Sanistand* FIXTURE

### *A new type plumbing fixture for Women's toilet rooms by American-Standard*

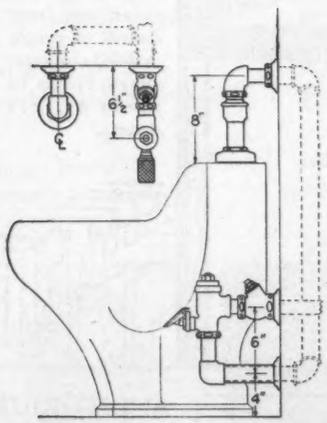



**M-498-VB**
Foot-lever-operated flush valve

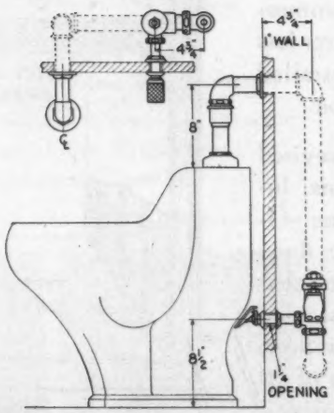
Here are the Watrous Flush Valve Combinations recommended for use with American-Standard F-5800 fixture — the new Sanistand fixture recently developed for use in women's toilet rooms.

These Watrous Flush Valve combinations have been worked out in cooperation with the fixture manufacturer, and provide the necessary 3½ gallon flush and 3 quart refill. As furnished they include Watrous Flush Valves with foot pedals, foot levers or handles as desired, shut-offs, wall flanges, flush connections, spud nuts, spud flanges and vacuum breakers. All exposed parts are heavily chromium plated; concealed valves are rough finished.

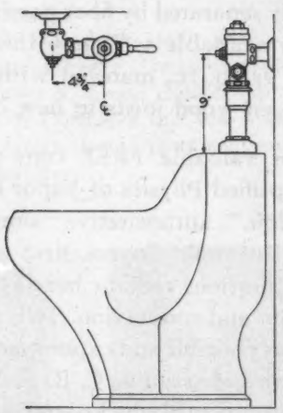
The flush valves themselves, of course, offer all those basic Watrous superiorities—water-saver adjustment, self-cleansing by-pass, self-tightening handle packing and single-step-servicing. Screenless silent-action can also be furnished at slight additional cost. *Write for Watrous "Series S" Data Sheets.*



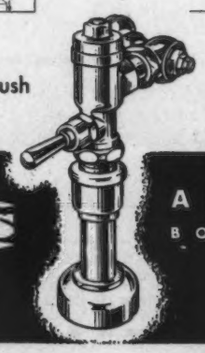

**M-479-VB**
Foot-operated exposed flush valve




**M-499-VB**
Foot-operated concealed flush valve




**M-497-VB**
Manually-operated flush valve



Watrous

ADJUSTABLE FLUSH VALVES
BOTH DIAPHRAGM AND PISTON TYPES

THE IMPERIAL BRASS MANUFACTURING CO.
1240 W. Harrison Street, Chicago 7, Illinois

## NEWS FROM WASHINGTON *by Ernest Mickel*

***First NPA Regulations Restrict Inventories, Set Up Priorities; New Real Estate Credit Curbs Come as Housers Protest Earlier Restrictions; BRAB Surveys Building Research; HHFA Projects Listed; B.O.C.A. Basic Code Stirs Interest; Hospital Plant Grows***

NATIONAL DEVELOPMENTS affecting all construction came rapidly as 1950 moved into the last quarter.

The abrupt turning of the military tide in Korea left some problems in Washington as well as at Lake Success. Federal officials feared a public reaction that might threaten support of the continuing war against material shortages and inflation on the domestic front. So there were many signs of outspoken comment in high places about the need for constant alertness.

These things seemed assured:

Rearmament would continue. There was no backing down from earlier pronouncements concerning an army of three million men. Nor was there any intention to slacken the arms order pace. Higher taxes were in view. The big bugaboo of economic controls had returned to plague industry in earnest; and there were unmistakable signs these controls would be strengthened through the fall and into 1951.

All segments of the construction field, along with other industries, were asking the usual question — how much and how far? Two weeks after the National Production Authority issued its first regulation — the inventory controls order — there still were no definitive answers.

It still remained for the Munitions Board to make known publicly the exact requirements for steel and other basic materials for the defense program. Much of the future planning by builders depended upon this.

NPA Regulation 1 tried to restrict supplies of 32 essential materials to "a practicable minimum working inventory." In the building materials category, it covered Portland cement, gypsum board, sheathing and lath. Forest products controlled ran through construction grades of softwood and hardwood, but hardwood flooring was expressly excepted. The explanation was that officials believed an armament program would not require large amounts of this item; therefore it did not need to be included. Material for box, crate and package stock manufactured from saw timber was in the NPA order.

Softwood plywood products were placed under inventory controls by the order. Hardwood veneer was specifically excluded, however. Items controlled under this listing included softwood plywood made in hardwood plywood mills; plywood which has a softwood face; and softwood plywood which has been overlaid with paper, plastic, metal or other material. Wood pulp was included.

The government clamp-down was felt by metals even more extensively. Iron, steel, aluminum, copper, manganese, nickel, tin, zinc and other metals and minerals appeared in Regulation 1. And later the Commerce Department imposed additional destination (export) controls on several non-ferrous metals and manufactures. These included manufactures from aluminum, copper, brass, lead and zinc.

### *Credit Curbs Disturb Housers*

Almost immediately, Commerce let it be known that moderate revision of the controls list was being considered.

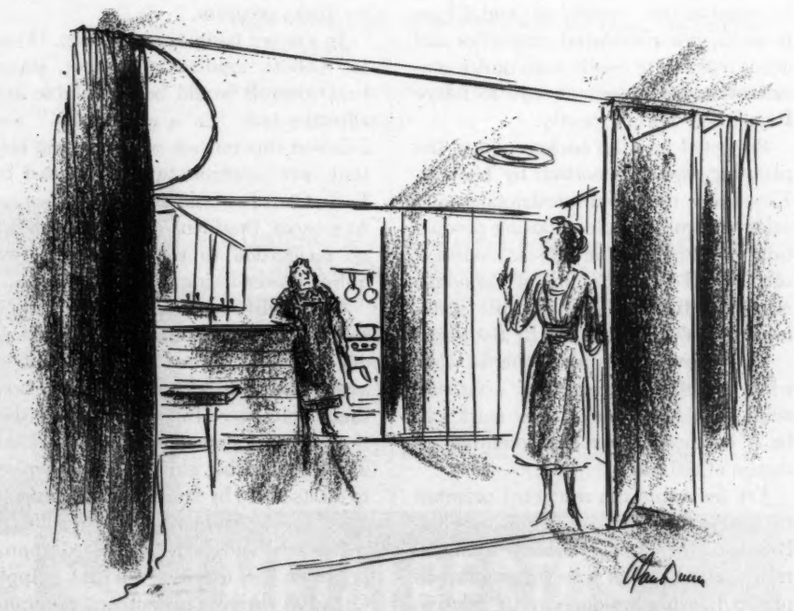
Meanwhile, the machinery of NPA moved slowly but surely toward a multiplicity of regulations. The inventory order launched a series with a priority for earmarked defense orders following the first of October. Firm allocations were in the wind.

At higher policy levels the Administration was establishing a price-wage stabilization agency.

While the overall controls program shaped up slowly, certain industry segments were complaining bitterly that credit restrictions already imposed in the real estate field were too severe. These regulations, coming out July 18 as the first move to curtail housing construction and conserve scarce building materials, were proving to be bitter medicine for the home building industry. President Thomas S. Coogan of the National Association of Home Builders talked of drastic curtailment of the housing supply. He said a rude awakening was in store for veterans wanting to purchase new homes. They would wake up to the fact that the days of no down payments and five per cent on government-backed mortgage purchases were over, he predicted.

But in spite of the home builders' protests, government went ahead with plans

(*Continued on page 16*)



— Drawn for the RECORD by Alan Dunn

*"Come here a minute, Anna—I want to show you how to make the dining room—"*

## WASHINGTON

(*Continued from page 15*)

to strengthen these credit curbs. New regulations which became effective October 12 call for down payments on a sliding scale from 10 per cent in the $5000-and-under price range to 50 per cent at $25,000 and over, with preference for veterans amounting in most cases to 10 percentage points.

The regulations, made public in a joint announcement from the Federal Reserve and the Housing and Home Finance Agency, are geared to the marketing of housing production of not more than 800,000 to 850,000 new housing units next year. This year's output is now estimated at 1.3 million; official government figure on 1949 production is 1,037,000.

Credit restrictions on non-government-aided housing loans are covered under Regulation X issued by the Board of Governors of the Federal Reserve System. Companion restrictions on government aided housing finance were announced by HHFA.

Credits secured by new construction as well as credits extended to finance the purchase of homes were affected. The regulations applied only to residential real estate credit on one- and two-family houses. However, regulations applying to construction credit on rental-type projects, non-residential properties and other real estate credit were under consideration and appeared sure to follow Regulation X very shortly.

Projected into the background of the planning was the assertion by Leon H. Keyserling that credit restrictions and other controls to guide housing production would be necessary. He is chairman of the President's Council of Economic Advisers. In that capacity his statements are watched closely by the trade.

Mr. Keyserling said he hoped that what is left of production after the strict regulations make their mark can be a balanced program, benefiting all classes of citizens.

Yet he wants the restricted program to contain a share of public housing. Raymond M. Foley, housing administrator, also has said he wants continued public housing production in relative proportion to the output of all housing units.

(*Continued on page 18*)



*Nearing completion one block north of Toronto General Hospital is a new hospital planned exclusively for children. The Hospital for Sick Children will have the largest milk lab known, with a sterilizer of 1500-bottle capacity. Architects Govan, Ferguson, Lindsay, Kaminker, Maw, Langley and Keenleyside have given the new building design features which tie in with those of nearby Toronto General*

## NEWS FROM CANADA *by John Caulfield Smith*

### *Government Acts to Counter Repercussions of Emergency*

THE TROUBLED WATERS of the international situation have reached the toes of the Canadian government.

To counter possible repercussions in the construction industry, the government has price controls ready, is discouraging non-defense capital outlays, and has cancelled much of its own public works program.

In a recent budget speech, Hon. Douglas Abbott, minister of finance, stated that controls would be acceptable and effective only "in a great crisis" and followed this remark with a strong hint that, were controls to be instituted by U. S., Canada would have to do likewise. At present, President Truman has shown no inclination to use his recently acquired power to impose such controls.

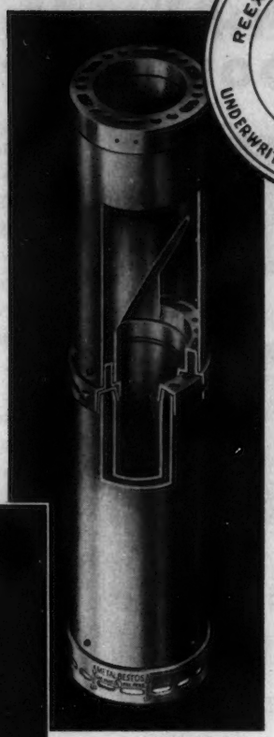
We require, according to Mr. Abbott, a "prompt and effective anti-inflationary program." He urged private business and public authorities alike to keep their capital investment spending within the limits of immediately essential undertakings. The government promises to do its share by launching an economy drive and by budgeting for a surplus.

Our new and vastly increased appropriations for defense will not cripple Canada's thriving investment program. It will simply direct it into another channel: rearmament. Of course, a major portion of the expenditure is to go into construction and the re-tooling and production of equipment. This will require large quantities of building materials, steel and basic metals. Heavy demands will be made upon our supply of skilled manpower. Defense investment, Mr. Abbott said, "will compete with, and where necessary it will have to displace, non-essential investment."

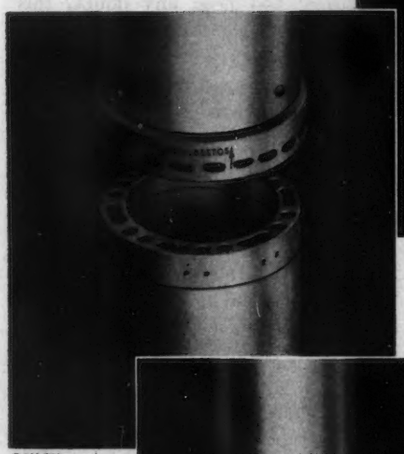
Government building projects already under way will be continued, but few new ones will go ahead. Huge cuts are involved in a public works program that was to have cost about $200 million. Post offices, wharves and other items are being cancelled by the score. At the same time, the Government promises that no obstacles will be put in the way of hospital construction. If controls do come, their administrator — Rt. Hón. C. D. Howe, minister of trade and commerce — will be empowered to allocate strategic materials as he sees fit. Hospitals will enjoy high priority.

How municipal undertakings will be affected is uncertain. Toronto's subway, which is being built in five sections, may have its completion delayed. Steel for the first section came from U. S., for the second section from Luxembourg. Tenders will be called shortly on the third section. "All we need," declares W. C. McBrien, chairman of the Toronto Transportation Commission, "is the same cooperation from Mr. Howe that we have had in the past."

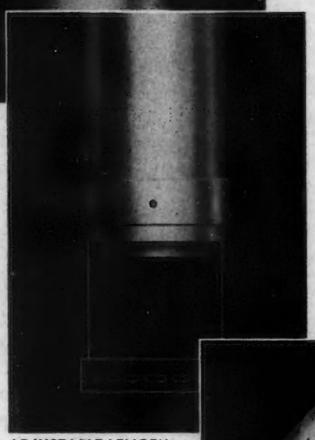
(*Continued on page 200*)



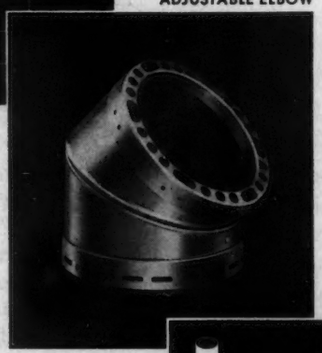
DOUBLE-WALL CONSTRUCTION



QUICK COUPLING



ADJUSTABLE LENGTH



ADJUSTABLE ELBOW

## FOR COMPLETE SAFETY

*specify*

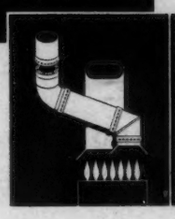
# QC METALBESTOS
## GAS VENT PIPE

- Listed by Underwriters' Laboratories without qualification as a Type B Gas Vent.
- Double-wall, all-aluminum construction assures maximum venting efficiency.
- Die-formed, gastight couplers permit easy, fast foolproof installation.
- Adjustable lengths and elbows eliminate cutting, reduce installation costs.

Designed solely for venting gas appliances, QC Metalbestos provides complete protection against gas fumes and fire hazards while assuring a quick, strong draft for proper venting. It fulfills all requirements of the National Board of Fire Underwriters and Underwriters' Laboratories, Inc.

*Available through contractors and dealers throughout the nation.*

*Write for METALBESTOS Catalog No. 6*
*To Department L*



**METALBESTOS** DIVISION
WILLIAM WALLACE COMPANY · BELMONT, CALIF.

## MODERNIZE WITH HARDWOOD FLOORS!

*Economize* WITH PARKAY



**Ready-Finished; In Resilient Floor Thickness; Laid Quickly Over Concrete, Wood or Terrazzo**



New floors for old offer no problem with the use of Parkay. Only 3/16" thick. All the wearing surface of standard flooring without useless bulk or weight. Permits use with other resilient materials without changing floor levels. Factory finishing by craftsmen insures a lasting lustre and beauty not obtainable by on-the-job methods.

Parkay floors are applied with special adhesive to any smooth, sound subsurface. Simple and clean to install for new construction as well as for remodeling. Time and money saved on every job.

Parkay flooring, made of choice American Oak, is available in two styles—9" x 9" Tiles and 9" wide Broadboard in random lengths. Both styles can also be used for impressive, low-cost wall paneling. For complete details, see Sweet's Architectural File or write direct for free samples and complete information. Wood-Mosaic Co., Inc., Louisville 9, Ky.

WM PARKAY READY-FINISHED HARDWOOD FOR FLOORS AND WALLS


## THE RECORD REPORTS

### WASHINGTON

*(Continued from page 16)*

The Council chairman put the Administration thinking in the following words:

"Great as our resources are, we cannot support our military defense effort without cutting back very, very substantially and very, very soon from the level of housing production at the middle of this year. . . . If we are going to have to cut back severely on housing — and we are — then we will have to cut back on most of the housing needed least, and less on the housing that is needed most."

If there had been any doubt, this confirmed that the forthcoming restrictions of housing credit would be severe for so-called luxury-type homes. (Note: home builders consider that true luxury type housing constitutes less than one per cent of overall production.)

Then Mr. Keyserling summed up as follows:

"Measured in terms of our resources, we certainly never lived as a nation in housing as good as we could afford to live in, or as good as some other advanced nations of the world. . . . There is no prospect of increasing the supply of all housing materials as fast as the military steps up its demands for them, but we will not have to cut back as much as we endured during World War II, as long as we remain in this intermediate situation."

### *Why Credit Control?*

The former chairman of the President's Council, Dr. Edwin G. Nourse, expressed his views at a recent meeting of the Producers' Council in New York. After telling the building product manufacturers that life had been good to them for some time, and Uncle Sam even better, he said market supporting factors were reaching a waning phase. He listed as conspiring to "release some of your capital" these factors: (1) the real estate credit restrictions; (2) materials allocations; (3) smaller consumer incomes after taxes; and (4) an interruption to family formation.

Dr. Nourse ventured the guess that right after elections, if not before, the building industry would see a set of controls (except wages) reaching wartime proportions. It must be remem-

*(Continued on page 20)*

# DOR-O-MATIC

**Concealed** **DOOR CONTROL**

More positive and more complete control of door-opening and door-closing, longer service life under all service conditions and complete adaptability to modern design are combined in the DOR-O-MATIC Door Control.




**DOR-O-MATIC** Equipped Entrance
Florsheim Shoe Company, Chicago
Shaw, Metz and Dolio, *Architects*
Campbell-Lowrie-Lautermilch Corporation,
*General Contractors*

## DOR-O-MATIC Offers

***ECONOMY...***

Complete control of all door functions in one concealed unit eliminates the need for costly accessories and permits easier installation.

***QUALITY...***

Manufactured by Logan Engineering Co., makers of precision mechanical equipment known and used throughout the world. The Logan reputation is assurance of outstanding quality.

***ADAPTABILITY...***

Can be used with exterior or interior glass, metal or wood doors under all service conditions. Weather-proof operation—no need for seasonal adjustments.




*Write* for the
**DOR-O-MATIC Folder**
It belongs in your specifications file.

See the Logan DOR-O-MATIC
Section in Sweet's File, Architectural

**DOR-O-MATIC** *Division of* **LOGAN ENGINEERING CO.**

**4908 W. Lawrence Avenue • Chicago 30, Illinois**




**Only Wing Revolving Heaters Circulate the Heated Air Around Obstructions**

AS the air from roof or ceiling areas is passed through the heating element of a Wing Revolving Unit Heater and projected downward through discharge outlets that slowly revolve, the heated air is not delivered to the working area in single-direction blasts, but in moving air-streams that sweep slowly through 360 degrees, covering successively every direction. The heated air moves around and under obstructions reaching to walls and remote corners. Every part of the plant is thus kept at an invigorating comfortable temperature.

**L. J. Wing Mfg. Co.** 151 Vreeland Mills Road, Linden, N. J.

*Factories: Newark, N. J. and Montreal, Canada*

WING

**Wing**

**Revolving UNIT HEATERS**

## THE RECORD REPORTS

### WASHINGTON

*(Continued from page 18)*

bered that Mr. Keyserling, not Dr. Nourse, now is in the driver's seat on the President's Advisory Council.

Late in September, M. S. Szymczak, member of the Board of Governors, Federal Reserve System, further clarified government thinking on the question of need for restricting housing credit. He told the Savings and Mortgage Division of the American Bankers Association:

"Real estate mortgage credit plays a very important and desirable role in our economic system in normal times. Without such credit, widespread home ownership would not be possible. However, in order that such financing may be of greatest value, it is important that it be used most fully when the construction industry as well as all other industries is in a position to meet demands without inflating prices and otherwise damaging the whole economy.

"When industry in general is running at capacity and increased needs for national defense require a substantial diversion of labor and materials for civilian use, the expansion of mortgage credit will only add fuel to the fires of inflation. If mortgage credit is appropriately limited now, it will be in a better position to play its essential role when more productive capacity becomes available to meet consumer demands."

He then described Federal Reserve's approach in these general terms:

"Restrictions will be imposed on credit (whether or not secured by a mortgage) granted for new construction, including major additions and improvements to existing structures, and may cover industrial and commercial as well as residential properties. Interest rates will not be regulated, but minimum down payment requirements will be established on residential properties. Consideration is also being given to maximum maturity and/or minimum rate of repayment requirements."

The restriction of real estate credit posed new problems for the men in Federal Reserve and HHFA who worked out details. There was plenty of precedent for the consumer credit regulations that came along under Regulation W, reimposed; but there was no such basis from which to project the real estate program.

*(Continued on page 22)*




# ELECTRO fluorescent fixtures

**now let you safely specify the added shielding advantages of**



# LUSTREX* styrene

Added light—added beauty—and added assurance of complete satisfaction are all now available in ELECTRO commercial fluorescent luminaires with LUSTREX Styrene louvers. Only ELECTRO Lustrex Styrene Fluorescents offer these better lighting features:

- **Guaranteed against warping and discoloration under normal use for the life of the fixture.**
- **No light loss! Translucent side panels transmit light—do not trap it.**
- **Louver panels are moulded—not just interconnected—for added rigidity and superior conformation...the dimensions of the openings remain constant!**

CHOOSE FROM A COMPLETE VARIETY OF SMARTLY STYLED, MODERN COMMERCIAL FIXTURES...featuring the ELECTRO "Basic Unit," the exclusive engineering idea that permits easy interchangeability of luminaires.

ALSO! LUSTREX STYRENE IN A COMPLETE RANGE OF SLIMLINE MODELS.

**ELECTRO**
**MANUFACTURING CORPORATION**
**2000 WEST FULTON STREET • CHICAGO 12, ILLINOIS**

*A product of Monsanto Chemical Co.

### *Research*

The Building Research Advisory Board has found a firm foundation after a somewhat uncertain beginning over a year ago. Twenty-two of its 30 Board members attended a regular meeting in Washington a month ago. It was clear at this session that BRAB will play an important part in correlating research at a time when it is most needed.

WASHINGTON (*Cont. from p. 20*)

The board discussed general policy matters, its future programs, the place of building research in the defense program, considered the financial report and the Director's report.

Under the guidance of Director William Scheick, the BRAB effort has expanded and become better known in industry circles during the past year. Mr. Scheick, by the way, has secured another year's leave of absence from his position as Director of the Small Homes Council of the University of Illinois. While he is on active duty with the Board here, James T. Lendrum is acting as director of the Small Homes Council.

BRAB presently is engaged in a project calling for research on research. Under a contract arranged between the Housing and Home Finance Agency and the National Academy of Sciences, the board's parent body, BRAB is conducting a survey of building research throughout the United States. Proposed scope of the survey, said Mr. Scheick, will encompass research activities directly related to housing carried out by educational institutions, trade associations, professional societies and independent research organizations. The study will cover research both under way and completed.

The next general conference of the board will be on the subject of fire resistance of exterior walls. This will be held in Washington, D. C. November 21. The first such conference was here in January on the subject of weather and the building industry.

At the recent board meeting the question of many other smaller conferences, to be held in cities other than Washington, was discussed. BRAB will continue to foster the general conference on specifically selected subjects periodically. But it was thought a new plan could be devised whereby certain members of the board might sponsor round-table group sessions on subjects of special interest to them in their own localities. The new approach was not drawn out to final conclusion; it was discussed as a possibility.

### *New BRAB Members*

Nine new members have joined BRAB ranks, and five of the original members have departed. New members are: John E. Burchard, Dean of Humanities, M.I.T.; Kermit Eby, associate professor, Division of Social Sciences, University of Chicago; Henry T. Heald, President, Illinois Institute of Technology; R. J. S. Piggott, director, Engineering Division, Gulf Research & Development Co.; M. Allen Pond, chief, Division of Engineering Resources, Public Health Service; Ralph Walker, president, American Institute of Architects; Stanton Walker, director of engineering, National Sand & Gravel Association; B. L. Wood, consulting engineer, American Iron and Steel Institute; and W. R. Woolrich, dean, College of Engineering, University of Texas.

(*Continued on page 24*)





Pella
ROLSCREENS
FIT ALL TYPES and MAKES OF WINDOWS

ROLSCREENS provide freedom from screen troubles! Once in place, always in place. No putting up — no taking down! No painting! No seasonal repairs! No storage space required. By minimizing window screen maintenance, ROLSCREENS pay for themselves over the years.

The exterior beauty of windows is preserved by ROLSCREENS because they are made of neutral colored AluminA wire cloth and installed on the **inside.** ROLSCREENS cost no more than good quality flat-frame screens. When annual maintenance and labor costs are considered, ROLSCREENS actually cost less than ordinary screens.

*Made by makers of*
FAMOUS PELLA VENETIAN BLINDS and CASEMENT UNITS

10-YEAR GUARANTEE assures that clients will be satisfied with ROLSCREEN performance.

**ROLSCREEN DETAILS IN HANDY FILE PACK**
for installing on all types and most makes of windows. Ready for tracing right onto your plans.



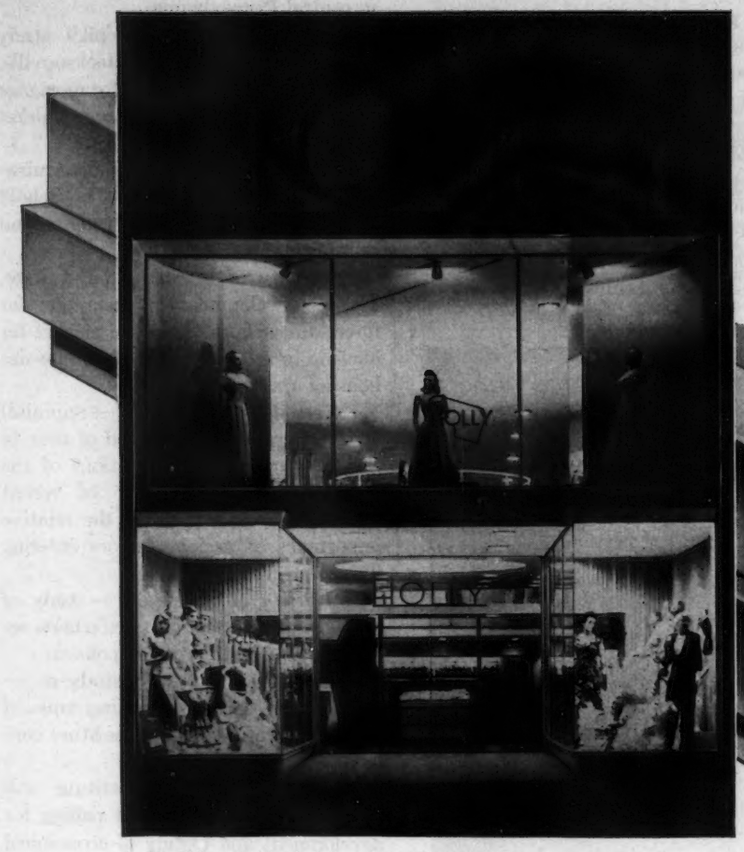

**MAIL COUPON**

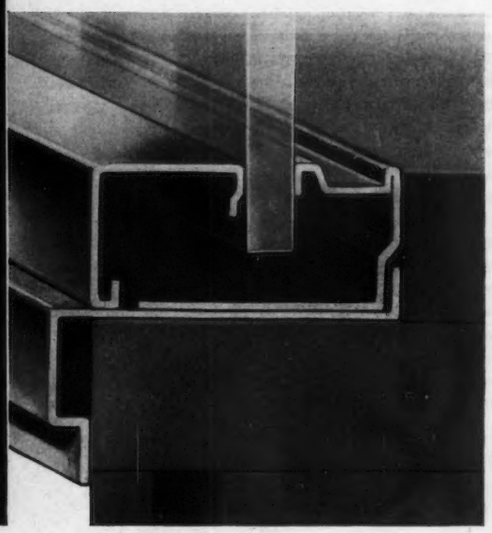
ROLSCREEN COMPANY,
Dept. B-31, Pella, Iowa

Without obligation, please send FREE new file of ROLSCREEN details and specifications in A.I.A. folder.

Name _____
Firm Name _____
Address _____
City & Zone _____ State _____

# BEAUTY
*where you want it*
# BRAWN
*where you need it*





Archts. Sidney H. Morris & Associates, Chicago

FOR new departures in store front architecture Brasco Construction adds distinctive beauty that attracts new customers and brings old ones back time and again. The classic styling of our Safety-Set line is in complete harmony with advanced design treatment, blending artistically with structural glass and other modern facings.

Structurally sound, Brasco is your *safest* store front setting. The deeper grip incorporated in all Brasco sash and bars supports window plate firmly and evenly, entirely without strain. Continuous tubular steel reinforcement in our rugged division bars adds the extra protection necessary for enlarged and heightened glass areas.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

Here is beauty and brawn combined to provide store fronts with architectural distinction, structural stamina and potent sales appeal. Handsome Brasco stock assemblies in infinite variety are available in both heavy gauge stainless steel and anodized aluminum. Write for catalog and full size construction details.

★ ★ A COMPLETE LINE FOR EVERY DESIGN ★ ★

**Brasco** SAFETY-SET STORE FRONTS

**BRASCO MANUFACTURING CO.**
**HARVEY · (Chicago Suburb) · ILLINOIS**
*Specialists in Metal Store Front Construction for more than 40 Years*

WASHINGTON (*Cont. from p. 22*)

### *HHFA Lists Projects*

Meanwhile, the Housing and Home Finance Agency is finding that mounting defense activity puts a special emphasis on the objectives of lower costs and economic stability in its own comprehensive research program. The magnitude of the broadened effort is shown in the recent listing of 57 research projects under contract to 35 colleges and universities, other private and nonprofit organizations, and government agencies.

In addition to those previously reported (ARCHITECTURAL RECORD, July 1950), these are the organizations, together with brief descriptions of the research projects they have undertaken:

Miami University (Oxford, Ohio) — extensive study of growth patterns of metropolitan areas.

Pennsylvania State College — study of effect of weather on full-size wood frame structures; study of temperature and humidity effects on selected houses in central Pennsylvania.

University of Florida — pilot study of a mortgage market (Jacksonville, Fla.) to develop techniques for mortgage market reporting and mortgage market analysis.

University of Illinois — determination of minimum standards of household plumbing to effect improvements and simplifications.

University of Miami (Coral Gables, Fla.) — development of technique for forecasting (short term) the market for housing in an industrialized middle-size housing area.

University of Michigan — appraisal of the changes over a period of time in the labor-management relations of the building industry; survey of recent home buyers to determine the relative importance of various factors entering into the transaction.

University of Minnesota — study of temperature and humidity effects on selected houses in the Minneapolis area.

University of Toledo — study of relationship in concrete building units of changes in volume and in moisture content.

Southwest Research Institute will carry on a research project calling for development and testing of economical designs for combined concrete floor slabs and foundations, for unusual soil conditions found largely in the Southwest.

U. S. government agencies under contract for research projects include:

Bureau of the Census — development of statistical method of determining inventory of nation's housing at intervals between census periods.

Department of Agriculture (Bureau of Entomology and Plant Quarantine) — study of various construction methods, including those used in World War II housing projects, as measures of termite prevention; (Bureau of Plant Industry, Soils, and Agricultural Engineering) — testing of soil cover materials for use in basementless dwellings; study of construction practices and effects in the use of wood siding; regional studies of deleterious effects in the use of crawl spaces under dwellings; (Forest Products Laboratory) — preparation of manual on recommended practices for dwelling construction; appraisal of current practices in the construction of frame dwellings to determine extent to which available improvements have been applied and

(*Continued on page 174*)




**HERE'S AID TO ARCHITECTS and ENGINEERS in planning SOUND SYSTEMS!**

ARCHITECTS and their engineers are invited to make full use of the experience of RCA Sound System engineers and the great RCA research and engineering laboratories, in planning and engineering sound systems.

You can get practical help on sound systems for every type of building: Schools . . . Hospitals . . . Hotels . . . Factories and Offices . . . Churches . . . Department Stores . . . Airports and Terminals . . . Warehouses and Garages . . . Auditoriums . . . Recreational Centers . . . Institutions . . . Stadiums.

• • •

Call on RCA Sound System engineers while your plans are still in formative stage. *No obligation, of course.*

SOUND PRODUCTS 3-K
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

Please have one of your sound system engineers call on us.

NAME_____

FIRM_____

STREET_____

CITY_____ STATE_____




# *Crawford*

*announces the publication of a new tool for*

*Architects and Engineers*

## THE CRAWFORD *60-Second* DOOR SELECTOR

This new type of reference book is dedicated to the idea that you should be able to find any door you want in 60 seconds, together with all the information you need for specifications. Covers doors for warehouses, loading docks, factories, service stations, boat wells, residence garages, etc., and all auxiliary equipment such as operators, controls, etc. This book should save you much time and effort. A copy is yours for the asking.

Call your local Crawford Door Sales Company, listed in your Yellow Pages, or write us on your letterhead.

## CRAWFORD DOOR COMPANY

Main Plant: 49-401 St. Jean Ave., Detroit 14, Michigan

FABRICATING PLANTS in Portland • Tacoma • Los Angeles • San Francisco • Dallas Kansas City • Chattanooga • Milwaukee • Hudson, Mass. • Cadillac • Ottawa, Canada.
DISTRIBUTING WAREHOUSES in 79 major cities.
SALES AND SERVICE companies everywhere.

# CONSTRUCTION COST INDEXES

## Labor and Materials

**United States average 1926–1929 = 100**

*Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.*

**NEW YORK**

| Period | Residential | | Apts., Hotels Office Bldgs. | Commercial and Factory Bldgs. | |
|---|---|---|---|---|---|
| | Brick | Frame | Brick and Concr. | Brick and Concr. | Brick and Steel |
| 1925 | 121.5 | 122.8 | 111.4 | 113.3 | 110.3 |
| 1930 | 127.0 | 126.7 | 124.1 | 128.0 | 123.6 |
| 1935 | 93.8 | 91.3 | 104.7 | 108.5 | 105.5 |
| 1939 | 123.5 | 122.4 | 130.7 | 133.4 | 130.1 |
| 1940 | 126.3 | 125.1 | 132.2 | 135.1 | 131.4 |
| 1945 | 160.5 | 161.7 | 156.3 | 158.0 | 155.4 |
| 1946 | 181.8 | 182.4 | 177.2 | 179.0 | 174.8 |
| 1947 | 219.3 | 222.0 | 207.6 | 207.5 | 203.8 |
| 1948 | 250.1 | 251.6 | 239.4 | 242.2 | 235.6 |
| 1949 | 243.7 | 240.8 | 242.8 | 246.4 | 240.0 |
| June 1950 | 255.6 | 254.4 | 246.8 | 248.7 | 245.9 |
| July 1950 | 261.3 | 261.0 | 251.1 | 252.6 | 250.0 |
| Aug. 1950 | 264.5 | 265.0 | 252.1 | 253.3 | 251.1 |
| | % increase over 1939 | | | | |
| Aug. 1950 | 114.2 | 116.5 | 92.9 | 89.9 | 93.0 |

**ATLANTA**

| Period | Residential | | Apts., Hotels Office Bldgs. | Commercial and Factory Bldgs. | |
|---|---|---|---|---|---|
| | Brick | Frame | Brick and Concr. | Brick and Concr. | Brick and Steel |
| 1925 | 86.4 | 85.0 | 88.6 | 92.5 | 83.4 |
| 1930 | 82.1 | 80.9 | 84.5 | 86.1 | 83.6 |
| 1935 | 72.3 | 67.9 | 84.0 | 87.1 | 85.1 |
| 1939 | 86.3 | 83.1 | 95.1 | 97.4 | 94.7 |
| 1940 | 91.0 | 89.0 | 96.9 | 98.5 | 97.5 |
| 1945 | 132.1 | 133.9 | 123.2 | 122.8 | 123.3 |
| 1946 | 148.1 | 149.2 | 136.8 | 136.4 | 135.1 |
| 1947 | 180.4 | 184.0 | 158.1 | 157.1 | 158.0 |
| 1948 | 199.2 | 202.5 | 178.8 | 178.8 | 178.8 |
| 1949 | 189.3 | 189.9 | 180.6 | 180.8 | 177.5 |
| June 1950 | 192.5 | 194.9 | 181.6 | 180.3 | 181.3 |
| July 1950 | 195.4 | 198.2 | 183.8 | 181.2 | 182.4 |
| Aug. 1950 | 201.5 | 204.1 | 188.9 | 187.2 | 190.0 |
| | % increase over 1939 | | | | |
| Aug. 1950 | 133.5 | 145.6 | 98.6 | 92.2 | 100.6 |

**ST. LOUIS**

| | | | | | |
|---|---|---|---|---|---|
| 1925 | 118.6 | 118.4 | 116.3 | 118.1 | 114.4 |
| 1930 | 108.9 | 108.3 | 112.4 | 115.3 | 111.3 |
| 1935 | 95.1 | 90.1 | 104.1 | 108.3 | 105.4 |
| 1939 | 110.2 | 107.0 | 118.7 | 119.8 | 119.0 |
| 1940 | 112.6 | 110.1 | 119.3 | 120.3 | 119.4 |
| 1945 | 152.8 | 152.3 | 146.2 | 148.5 | 145.6 |
| 1946 | 167.1 | 167.4 | 159.1 | 161.1 | 158.1 |
| 1947 | 202.4 | 203.8 | 183.9 | 184.2 | 184.0 |
| 1948 | 227.9 | 231.2 | 207.7 | 210.0 | 208.1 |
| 1949 | 221.4 | 220.7 | 212.8 | 215.7 | 213.6 |
| June 1950 | 233.8 | 231.0 | 222.4 | 226.6 | 222.5 |
| July 1950 | 237.1 | 235.0 | 223.9 | 227.7 | 223.9 |
| Aug. 1950 | 240.0 | 238.6 | 224.9 | 228.6 | 225.0 |
| | % increase over 1939 | | | | |
| Aug. 1950 | 117.8 | 123.0 | 89.2 | 90.8 | 89.1 |

**SAN FRANCISCO**

| | | | | | |
|---|---|---|---|---|---|
| 1925 | 91.0 | 86.5 | 99.5 | 102.1 | 98.0 |
| 1930 | 90.8 | 86.8 | 100.4 | 104.9 | 100.4 |
| 1935 | 89.5 | 84.5 | 96.4 | 103.7 | 99.7 |
| 1939 | 105.6 | 99.3 | 117.4 | 121.9 | 116.5 |
| 1940 | 106.4 | 101.2 | 116.3 | 120.1 | 115.5 |
| 1945 | 146.2 | 144.3 | 144.5 | 146.8 | 147.9 |
| 1946 | 159.7 | 157.5 | 157.9 | 159.3 | 160.0 |
| 1947 | 193.1 | 191.6 | 183.7 | 186.8 | 186.9 |
| 1948 | 218.9 | 216.6 | 208.3 | 214.7 | 211.1 |
| 1949 | 213.0 | 207.1 | 214.0 | 219.8 | 216.1 |
| June 1950 | 228.2 | 225.1 | 221.3 | 223.6 | 221.8 |
| July 1950 | 232.6 | 229.7 | 224.0 | 225.6 | 224.1 |
| Aug. 1950 | 236.7 | 234.8 | 225.4 | 226.1 | 225.1 |
| | % increase over 1939 | | | | |
| Aug. 1950 | 124.1 | 136.5 | 92.0 | 85.5 | 93.2 |

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

# "Our Home Needed 4 Thermostats for Comfort!"



Says CEDRIC ADAMS
*Noted CBS Radio Personality*

RESIDENCE OF MR. and MRS. CEDRIC ADAMS
MINNEAPOLIS, MINNESOTA
*Architect,* NORMAN R. JOHNSON, St. Paul, Minn.
*Builder,* CARL M. HANSEN, Minneapolis, Minn.




THE friendly informality of Cedric Adams' newspaper column and news broadcasts have long made his name a household word in Twin Cities homes. Today, a national TV and radio personality, Cedric's easy, comfortable manner and broad smile have won millions of new friends across America.

Recently he built himself a new home in Minneapolis. It was designed from stem to stern for pleasant living. The heating system received the special attention it required in a home of this type—zone control of different living areas to maintain ideal temperature conditions in all rooms at all times.

The Adams home has four properly located Honeywell thermostats. While some homes require but 2, larger homes may require 5 or more thermostats, depending upon the number of rooms, area of ground covered, exposures to sun or storm. But most larger homes can't get along comfortably on one thermostat. The next home you are commissioned to design may be one of them.

In any event, we suggest that you consult your nearby Honeywell field engineer. His broad experience in zone control will serve as an important aid in determining the proper number of controls needed for best results. Meanwhile, write for informative folder, "Residential Zone Control Applications and Specifications."

This Home Has **FOUR** Thermostats

① In the Recreational Area
② Also in Recreational Area
③ In the Living Area
④ In the Sleeping Area



**ELECTRONIC CLOCK THERMOSTAT**
Automatically lowered night temperatures may be provided for each zone, for additional convenience and fuel economy.

MINNEAPOLIS
**Honeywell**
FIRST IN CONTROLS

**MINNEAPOLIS-HONEYWELL REGULATOR COMPANY**
**2600 Fourth Avenue South • Minneapolis 8, Minnesota**

*Please send reprint of Producer's Council Bulletin on Residential Zone Control, A. I. A. File 30-E*

Name_____
Address_____
City_____ Zone____ State_____

# REQUIRED READING

## MASONRY HOUSE BUILDING

*The Masonry House. By Training-Thru-Sight Associates, Inc.: Lee Frankl in cooperation with Structural Clay Products Institute. Duell, Sloan & Pearce, Inc. (270 Madison Ave., New York 16, N. Y.), 1950. 8½ by 11 in. 125 pp., illus. $2.95.*

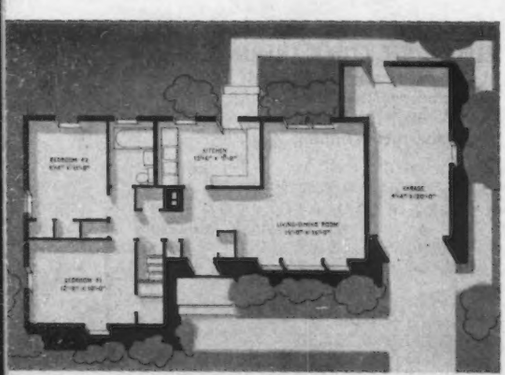
Economies possible in small house construction through use of modular coordination and engineering methods were demonstrated convincingly by the Industry Engineered Homes Program. Now Lee Frankl's organization presents a step-by-step guide showing just how to build a particular masonry house designed according to the principles of this program.

Much of the utility of the book is due to the visual training technique employed: drawings integrated with concise explanatory text answer specific problems involved in building this house. At the same time it contains helpful information for building any masonry house, showing various types of masonry construction, how brick and tile are laid, and simplified floor and roof framing systems. The construction process is covered so thoroughly that anyone who has some degree of mechanical skill should encounter practically no difficulty building the house illustrated or adapting the information to other house plans developed by and available from the Structural Clay Products Institute.

Of particular interest to RECORD readers should be the layouts of the foundation, cavity walls and chimney picturing the combination of brick, facing tile, structural tile and flue linings, all being made in modular sizes. Also of note is the section on roof framing which gives instructions for making the trusses which are assembled by jig at floor level and then tipped up into place — this being one of the major economies brought about by engineered construction methods.

Since the main emphasis of the book is on these engineered methods and their coordination with modular materials, it is appropriate that the first section outlines the basic principles and advantages of the modular system and gives background information on their application in a study conducted in 1947 by the Small Homes Council of the University of Illinois.

Following sections cover the selection of materials, use and care of tools, and on-the-site construction.



*Plan of typical house that can be erected by techniques given in* The Masonry House

## HOUSE BUYER'S PRIMER

*Buying A House Worth The Money. By Frazier Forman Peters. Little, Brown & Co. (34 Beacon St., Boston 6, Mass.), 1950. 6 by 9 in. 157 pp. illus. $2.75.*

Although this chatty little book is written mainly for prospective house buyers, it might be of great use to the architect trying to convince an over optimistic client as to what type of house he can afford. Most of the text is accompanied by comments on the relative costs and values of different kinds of construction. Architect Peters also has compiled a specification chart of "the standard house," which he classes as having "all the essential qualities of the millionaire's house without the pate de foie gras." Adjacent columns on the chart rate constructions above and below this standard.

This data, coupled with many chapters of discussion constitute an excellent primer of construction for the layman. Houses are analyzed from foundation to roof, including such items as cellar drainage, termites, decay, insulation, vapor barriers, radiant heating and the heat pump.

Unfortunately, Mr. Peters dismisses the question of architectural design with a terse "Which is best? Which is ART? Who cares, so long as you select the one that is YOU." His middle road policies prompt him to refer to contemporary styles as "Modernes." However, he writes glowingly of such new materials as waterproof plywood and metal siding.

Architects are defined as those who are "informed in the technical matters and trained in the art of home midwifery," and who "must crawl as far into your skin as possible, to look out of your eyes, to feel your brain react, and even to study how you sleep."

With the good and the bad, the book stands well above the usual run of manuals aimed to instruct the layman on home building, and deserves a place on the bookshelf reserved for clients.

## PLANNING AND RESEARCH

*Social Pressures in Informal Groups. A Study of Human Factors in Housing. By Leon Festinger, Stanley Schacter and Kurt Back. Harper & Brothers (49 East 33rd St., New York 16, N. Y.), 1950. 5¾ by 8⅜ in. x + 240 pp. illus. $3.00.*

The book is a valuable study of a housing development in terms of group needs and satisfaction of these needs. It has been written from the social psychologist's point of view with the psychologist's method of investigation.

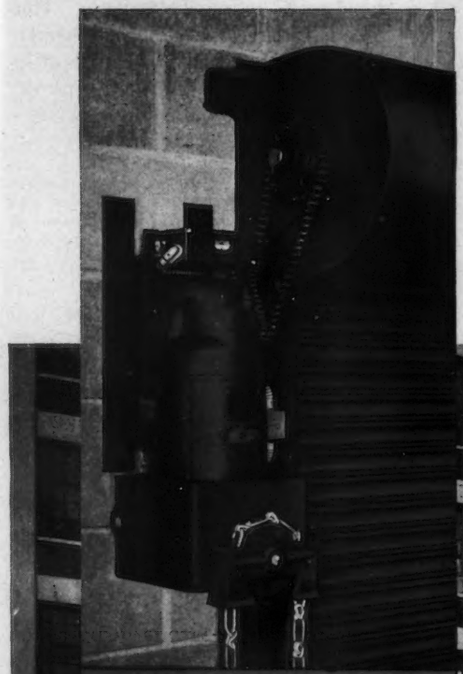
From the architect's and city planner's standpoint, the study's worth is in its thorough evaluation of a housing project. From certain defects and successes alike, salient considerations are presented which would be helpful to one concerned with designing in units for a number of people. The challenge set forth is to create housing whether in small or tremendous units which will fulfill human requirements.

The experiment in this case is M.I.T.'s Westgate, a development sheltering veteran's families, a congregation of people generally in the same age level. Westgate's group structure has undergone an analysis which draws a line of interaction among group functions, homogeneity, cohesion, communication, behaviour, etc.

As architect Robert Kennedy indicates in his chapter, "Sociopsychological Problems in Housing Design," in view of the increased occupancy of housing communities, planners are dealing with a whole new dimension. It is essential now to plan for every need of a *collection* of people rather than for the needs of an individual household. The "city is beginning to be thought of as a constellation of neighborhoods rather than a maze of streets." There is a certain

*(Continued on page 30)*

# Rolling Steel DOORS



MAHON STANDARD
POWER OPERATOR 920-P

### *Manually, Mechanically, or Power Operated*

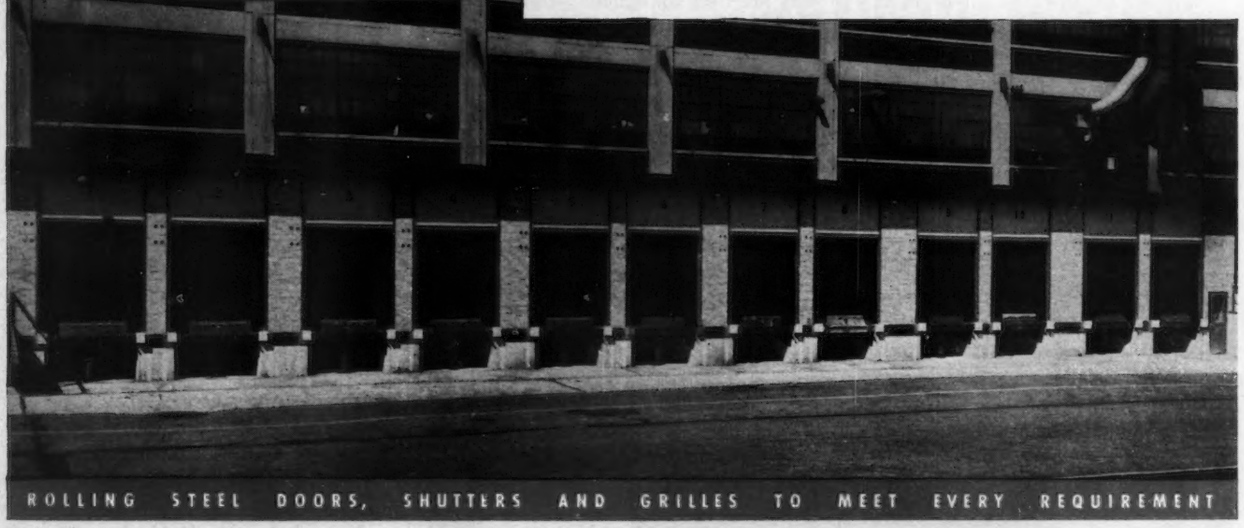
Here is a shipping dock application where only a Rolling Steel Door would serve the purpose . . . each door opening is equipped with a hydraulically controlled floor leveling ramp to permit the use of lift trucks for rapid unloading of large trucks and truck trailers. You, too, will find that Rolling Steel Doors offer more desirable operating features than any other type of door . . . Open or closed, they occupy no usable space inside or outside the opening . . . their all-metal construction provides permanence, and a lifetime of continuous, trouble-free service. Comparison will convince you, also, that when you buy Mahon Rolling Steel Doors you can rest assured that you will get the finest materials, finest workmanship, and the latest developments in doors of this type. See Sweet's Files for complete information, or write for Catalog G-50.

**THE R. C. MAHON COMPANY**

Detroit 34, Michigan • Western Sales Division, Chicago 4, Illinois

*Representatives in all Principal Cities*

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls, Steel Deck for Roofs, Partitions, Acoustical Ceilings, and Permanent Concrete Floor Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Twelve of thirty-four Power Operated Mahon Rolling Steel Doors installed in a large midwest automobile plant. Note hydraulically operated floor levelers in each door opening.

# MAHON




HERE IS THE very *most* in bathroom cabinet beauty and convenience... two sliding plate glass mirror doors which conceal a spacious, double size recessed cabinet.

There's *beauty* in the large handsome expanse of plate glass mirror (39"x22") completely bound by a wide chrome frame... in the gleaming white baked enamel steel cabinet... in the fine Hall-Mack workmanship and finish.

And there's real *convenience* in the big divided cabinet with more than *twice* the room of an ordinary cabinet ...in the six fully adjustable glass shelves... in the smoothly sliding mirror doors which always provide a 20"x22" mirror for use even when one cabinet is opened.

Wherever you want the ultimate in cabinet quality, and the most in beauty and practical convenience—install the new Hall-Mack Mirro-Glide.




**And remember...**
**Hall-Mack accessories...**



## REQUIRED READING

(*Continued from page 28*)

homogeneity, and the satellite town is studied in terms of economics and design.

What the book suggests is that as long as it is both possible and important to know how people live in relation to their families as well as to others in a housing group, cooperation of the planning and social professions will advance the idea of "optimum standards." Thus these findings of the Westgate researchers will help point out to creators of future developments the means of providing the physical environment for satisfactory living.

***Communities for Better Living. Citizen Achievement in Organization, Design and Development. By James Dahir. Harper & Brothers (49 East 33rd St., New York 16, N. Y.), 1950. 5¾ by 8½ in. xiv + 321 pp. illus. $4.00.***

In this book James Dahir shows how good planning will produce better community living conditions. He has added his voice to Mr. Lewis Mumford's thesis that giant city housing developments (familiar especially to the New Yorker) are no solution to mal-housing, and that through these the problems of unplanned urbanism are by no means resolved.

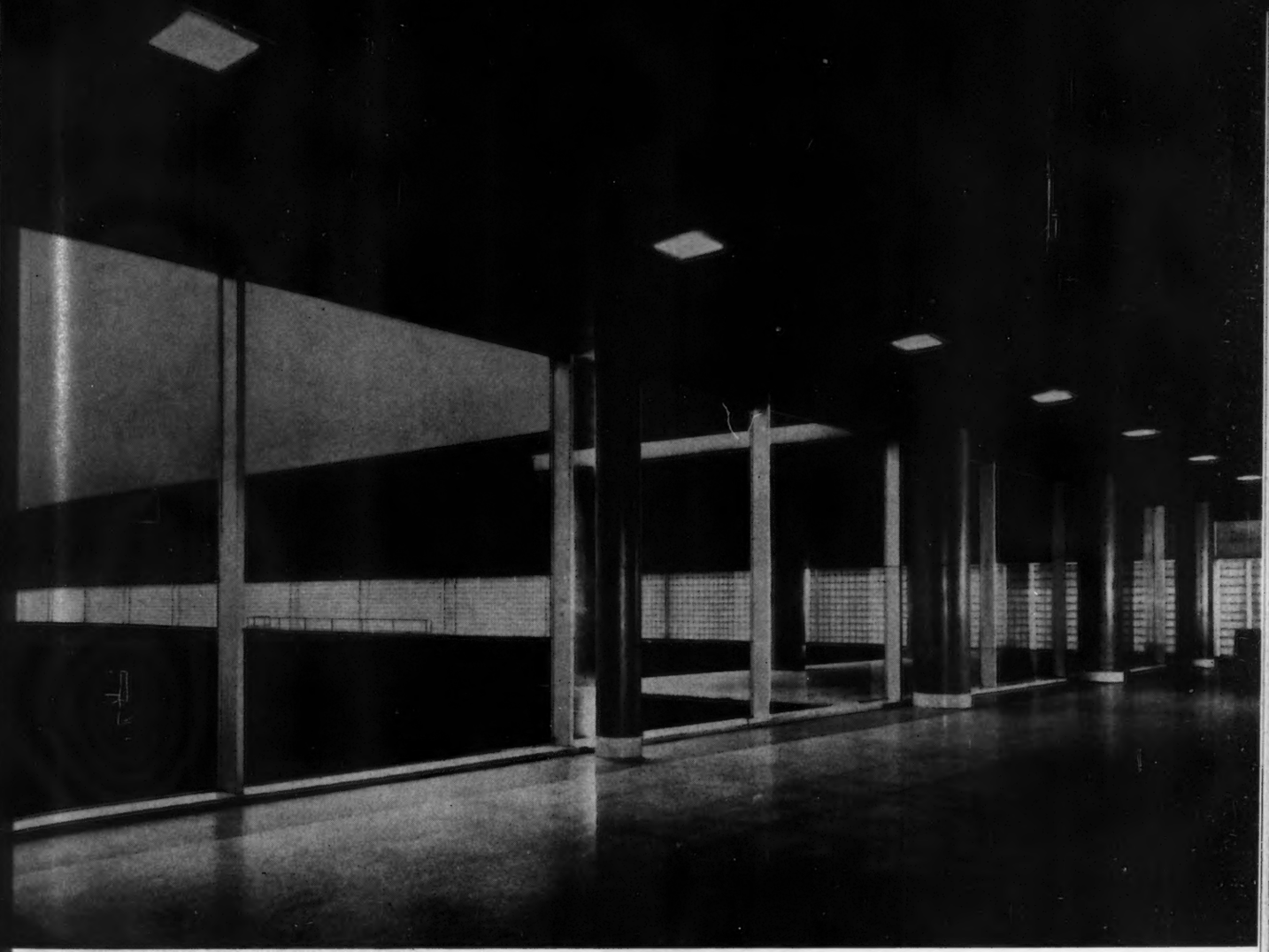
Mr. Dahir explains that the problem does not lie only in the smoke and smog filled *city* thoroughfares; but that the *rural* town, too, has its complexities. (Like Thoreau, in *Walden*, "From the desperate city you go into the desperate country . . .") In studying aspects of both rural and urban living, Mr. Dahir has reported the projects destined to make possible more liveable communities. Having accounted for such factors that contribute to "better living" as recreation centers, shopping centers and local institutions (orchestras, museums, theaters, etc.) he shows his concern for the social as well as physical implications of planned communities.

Further emphasized are the responsibilities of every citizen — not only to apprise himself of what must be done, but also to participate in the doing. Thus in its appeal for organization the book encourages both study and action.

Sources of help for future planning, suggested in the final chapter, include the efforts of government, public schools and social sciences.

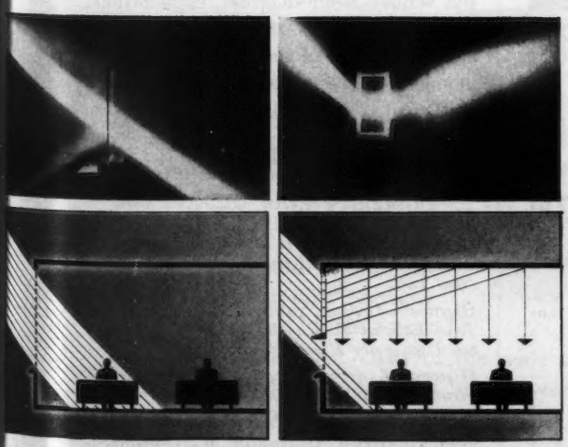
Not only has Mr. Dahir shown himself to be a community planner, but in addition, he has revealed the social conscience as a compelling force in creating communities for better living.

(*Reviews continued on page 32*)



hicago's gigantic South District Filtration plant gains light, cuts eating and maintenance costs with Insulux Glass Blocks that resist orrosion, condensation, need no painting, never rust or rot. esigned by Paul Gerhardt, Jr., constructed by S. N. Nielsen Co.

# DESIGN FOR DAYLIGHT THROUGH Daylight Engineering



Direct sun causes uncomfortable brightness near windows, extreme contrast in other parts of room. Insulux Fenestration (glass block plus vision strip) directs and spreads daylight to ceiling, keeps brightness at comfortable levels, provides vision and ventilation.

Old style windows need shades, blinds or awnings, that shut out an average of 44% of the light, to reduce sunshine to tolerable levels. When pulled up and down these light-reducers make a crazy-quilt effect on the faces of beautiful buildings.

Now, with an Insulux Fenestration System you can direct daylight UP to ceilings, spread it evenly over large areas. Annoying contrasts are eliminated. Wall insulation increased. Fire hazards diminished.

An Insulux Fenestration System also picks up early morning and late afternoon light and refracts these low-angle light rays over the ceiling surface. The lighting effect is like having the building turn with the sun.

Our Daylight Engineering Staff is at your service. Call on it for information, specifications or help in applying the principles of Insulux Fenestration to your special needs. Write: Daylight Engineering Laboratory, Dept.AR11, Box 1035, Toledo 1, Ohio. *Insulux Division, American Structural Products Company, Subsidiary of Owens-Illinois Glass Company.*

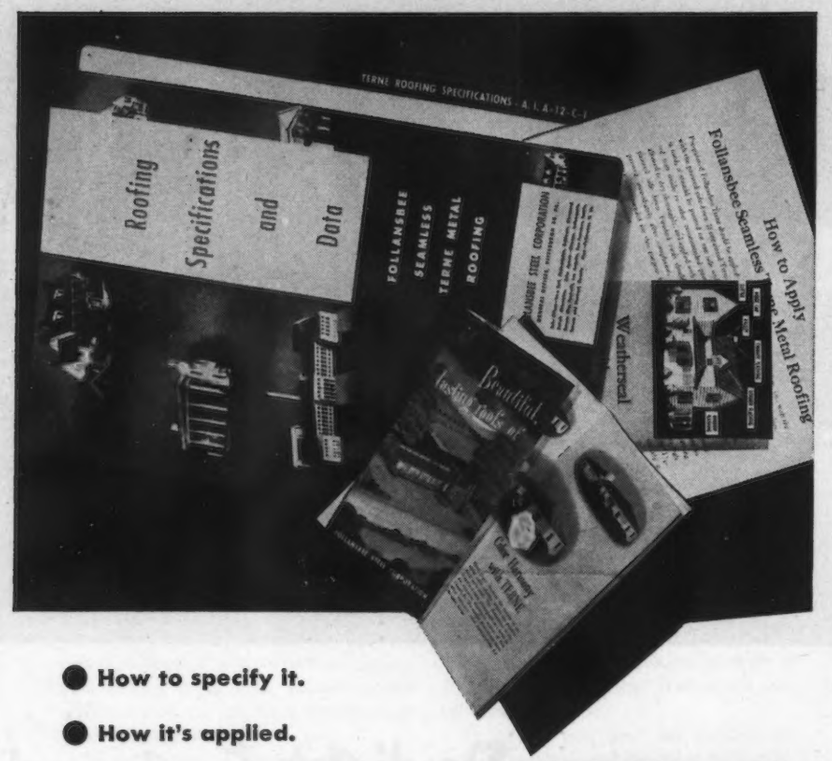
INSULUX GLASS BLOCK

## INSULUX FENESTRATION SYSTEMS

*—by the pioneers of Daylight Engineering*

# an Architect's File of Information

## on FOLLANSBEE TERNE METAL ROOFING




- How to specify it.
- How it's applied.
- Design and color details.
- Use in weathersealing.

**Your copy of this A.I.A. File is all ready for mailing. Just use the coupon or write us on your business letterhead. If you'd also like a copy of the Follansbee Forge Certificate Book, just check the coupon.**



**FOLLANSBEE STEEL CORPORATION**

**GENERAL OFFICES, PITTSBURGH 30, PA.**

**COLD ROLLED STRIP • ELECTRICAL SHEETS • POLISHED BLUE SHEETS**
**SEAMLESS TERNE ROLL ROOFING**

*Sales Offices*—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. *Sales Agents*—Chicago, Indianapolis, Kansas City, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada.
*Plants*—Follansbee, W. Va.

**Follansbee Metal Warehouses: Pittsburgh, Pa. • Rochester, N.Y. • Fairfield, Conn.**

Terne Metal Dept. R
Follansbee Steel Corp., Pittsburgh 30, Pa.

Please send me the following: ☐ A.I.A. File
☐ Certificate Book

Name_____ Company_____

Address_____


## REQUIRED READING

*(Reviews continued from page 30)*

### NEW EDITIONS

#### WELDING

*Procedure Handbook of Arc Welding Design and Practice. Lincoln Electric Co. (Cleveland 1, Ohio), 1950. Ninth Ed. 6 by 8¾ in. xi + 1200 pp. illus. $2.00 (domestic); $2.50 (elsewhere).*

Aimed to aid designers of welded machines and structures, the revised handbook includes the newest procedures for welding all metals and alloys. The structural design section has been enlarged to provide further information on welded rigid framing, and there are new chapters on weldability and welded design data.

#### FOR TEXT AND REFERENCE

*Theory of Modern Steel Structures. Abridged Edition. By Linton E. Grinter. The Macmillan Co. (60 Fifth Ave., New York 11, N. Y.), 1950. 6⅜ by 9½ in. xxii + 424 pp. illus. $6.50.*

This text treats such steel structures as industrial buildings, truss bridges (for dead, highway and railway loadings), office and commercial buildings. Included are considerations of lateral and portal bridge bracing, the plate girder, towers and wind bents in tall buildings and other aspects.

*Structural Theory. By Hale Sutherland and Harry Lake Bowman. John Wiley & Sons, Inc. (440 Fourth Ave., New York 16, N. Y.), 1950. Fourth Ed. 6¼ by 9¼ in. xiv + 394 pp. illus. $5.00.*

"An introduction to the basic concepts and principles of structural theory relating to trusses, rigid frames and space framework." Revisions include the addition of: solutions of compound trusses by the Williot-Mohr diagram, explanation of fixed points in continuous beams, and a consideration of members of varying moment of inertia supplementing the treatment of moment distribution.

### BOOKS RECEIVED

*China and Gardens of Europe. Osvald Sirén. The Ronald Press Co., New York.*

*Contemporary Structure in Architecture. Leopold Michaels. Reinhold Publishing Co., New York.*

*Highways In Our National Life. Edited by Jean Labatut & Wheaton J. Lane. Princeton University Press, Princeton, N. J.*

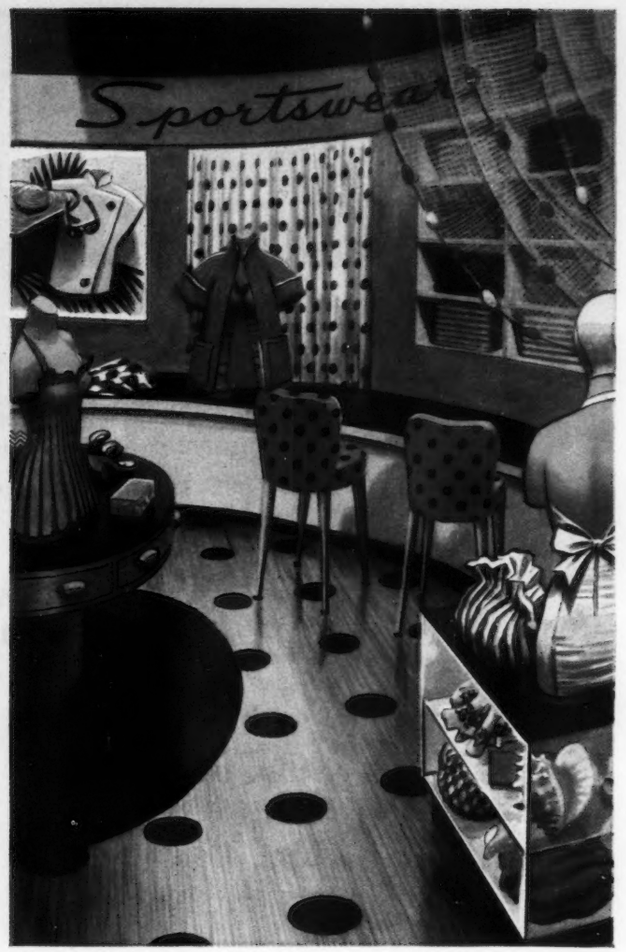
*History of Architecture, A. H. Heathcote Stratham. B. T. Batsford, Ltd., New York.*

*Museum Buildings. Laurence Vail Coleman. American Association of Museums.*

*Plant Layout and Materials Handling. James M. Apple. The Ronald Press, New York.*

*Urban Pattern, The. City Planning and Design. Arthur B. Gallion in collaboration with Simon Eisner. D. Van Nostrand Co., Inc., New York.*






## This is Armstrong's Asphalt Tile

It's hard to believe that the floor that contributes so much to the rich decoration of this restaurant is low in cost—but it is. Armstrong's Asphalt Tile was developed particularly to meet the need for an attractive floor at minimum cost. In addition, it has a special advantage for basements or for any concrete floor slab in direct contact with the ground. It is not affected by the alkaline moisture always found in floors of that type.

Countless color combinations and geometric designs can be created with Armstrong's Asphalt Tile. Any of the wide variety of smart colors can be combined because this floor is put down tile by tile.

The tough composition of Armstrong's Asphalt Tile makes it a durable floor that will give long service even under heavy traffic. It is manufactured in two service thicknesses—1/8″ and 3/16″ and in two types—Standard and Greaseproof.

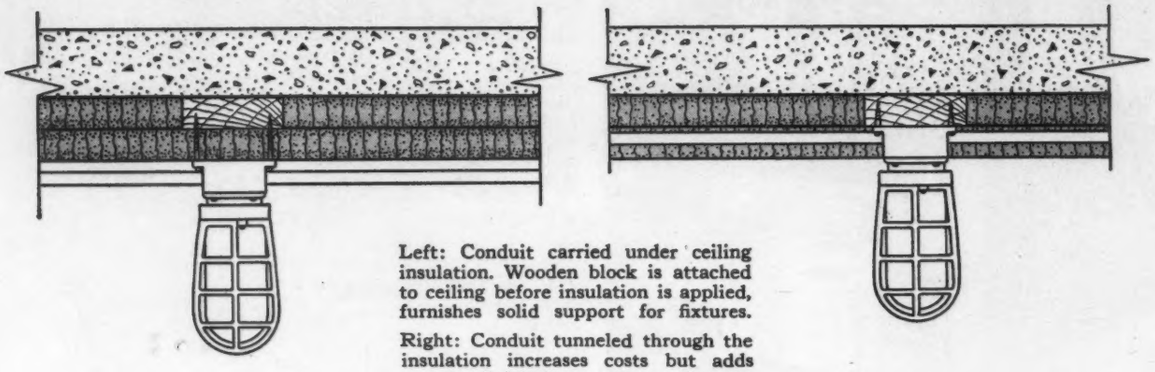
*They're both Armstrong's Floors*

## This is Armstrong's Linoleum

Where unusual beauty in floor color and design is desired, Armstrong's Linoleum offers almost unlimited opportunity. Custom designs are easy to create because of its wide range of colors and style effects. The moderate cost of Armstrong's Linoleum also makes it practical to have an individually styled floor. It is made in six different types and three service thicknesses. Through the years, Armstrong's Linoleum has gained a reputation for long, satisfactory service in busy stores, shops, and offices.

**For additional information** on these floors as well as for data on resilient floors of Armstrong's Linotile®, Arlon* Tile, Rubber Tile, or Cork Tile for commercial, industrial, or residential use, see the latest edition of Sweet's Architectural Files, section 13, catalog B or the latest edition of Armstrong's Pattern Book. For samples, literature, or unbiased help on any flooring problem, contact your nearest Armstrong District Office or write directly to the Armstrong Cork Company, Floor Division, 2411 State Street, Lancaster, Pa.

*T.-M. REG. APPLIED FOR



Left: Conduit carried under ceiling insulation. Wooden block is attached to ceiling before insulation is applied, furnishes solid support for fixtures.

Right: Conduit tunneled through the insulation increases costs but adds to neat finished appearance of room.

**We have been asked . . .**

## "HOW DO I HANG ELECTRICAL FIXTURES FROM A CORK CEILING?"

"I am planning to build a large freezer room, to be insulated with 6" of corkboard," writes a man about to enter the frozen food distribution business. "I have heard that dropping outlets through the ceiling reduces the efficiency of the insulation. Is this true, and if it is, how do I hang electrical fixtures from a cork ceiling?"

**HERE'S THE ANSWER:**

Dropping electrical outlets through a freezer room ceiling violates a cardinal principle of cold room construction; that is, the insulation envelope should be broken only at a minimum number of places. Metal conduits are good conductors of heat and warm air. Moisture in the air flowing into the room through the break made by the conduit will condense, turning to ice in the surrounding insulation, and on the outer surfaces of electrical fixtures. The same thing happens inside the conduit. Over the years, this condensation and freezing is bound to have a damaging effect on both the insulation and the electrical wiring.

Freezing in and around conduits and fixtures can be avoided by bringing all electrical wiring in through one conduit, sealed into the wall. Warm air can be kept from flowing through the conduit with a special sealing condulet outside the wall. In the room, leads are distributed under the ceiling. The problem of holding the fixtures to the cork ceiling is solved by the use of wooden blocks, fastened to the ceiling in the first layer of insulation. Blocks should be at least 6" x 6" and as thick as the first layer of insulation. When the second layer of insulation is applied, the location of the blocks can be indicated with chalk. The electrician can then drive lag screws into the wooden blocks to support the electrical fixtures.

This problem is not difficult, but if ignored can cause trouble on the job. Like so many aspects of low-temperature insulated construction, the best electrical wiring system can be assured by careful planning before the job begins. Armstrong engineers will gladly help you plan your next low-temperature insulation work.

**SEND US YOUR QUESTIONS:** If you have any questions on the construction of low-temperature facilities, please do not hesitate to write to us. We'll do our best to give you a practical answer. Just address a letter or post card to Armstrong Cork Company, 2411 Concord St., Lancaster, Pa.


# ARMSTRONG'S INDUSTRIAL INSULATIONS

MATERIALS - INSTALLATION

FOR ALL TEMPERATURES FROM 300°F. BELOW ZERO TO 2800°F.



# some things need experience

Putting stainless steel to work in a given application requires experience. Since stainless is a whole family of steels, the *right* analysis must be used . . . or stainless steel will not function properly. That's why Crucible, pioneer in the development of this specialty, offers you, freely, the experience of an alert metallurgical staff. These engineers and metallurgists know which stainless fits your job best . . . and their advice can save you time and money in applying stainless steel to your requirements.

The painstaking care Crucible shows in finding the best answer to Industry-posed problems is the measure of Crucible's half century of specialty steel leadership. Put this experience to work for you. And, whether the order is in tons or pounds, your problem is assured prompt attention. When it's stainless . . . call in Crucible.
CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, New York 17, N. Y.

**CRUCIBLE** first name in special purpose steels

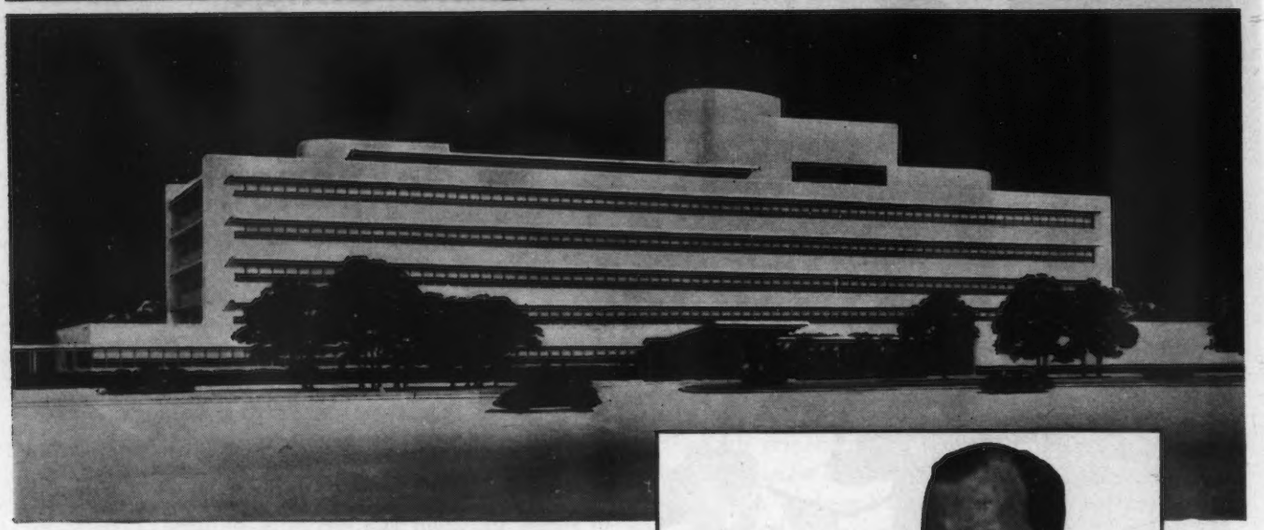
**STAINLESS STEELS**

*fifty years of* Fine *steelmaking*

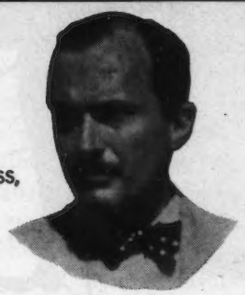
STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

HOW DOES THE ARCHITECT ACTUALLY

# FIGURE COST OF Q-FLOORS?



Esso Standard Oil Co., Baton Rouge, La.



ARCHITECT:
LATHROP DOUGLASS,
*New York*

Associated—Carson and Lundin, New York
Contractor—John W. Harris Associates, New York

The cost of Q-Floor becomes less as the building nears completion, because Q-Floor construction saves time—a factor that influences the cost of the whole building. Therefore, to quote the actual, final, installed *cost,* an architect first must figure out how much Q-Floors will *save.*

Q-Floor construction being lightweight, saves other materials in foundation and frame; it also eliminates much material (such as formwork), necessary to wet construction methods . . . but which does not become part of the building.

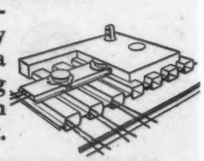
Q-Floor, being quick-in, cuts building time 15 to 20%. This saves time, financing, and produces revenue sooner.

Q-Floors and the steel frame are erected together. Therefore, they become immediately a dry, uncluttered platform for subcontractors.



Materials are stored right on the floor near where they will be used. All trades move ahead at full speed, independent of each other.

The cost of Q-Floor per square foot, as quoted, is less than the price of carpet. And when you subtract the savings in other materials and in time, you find Q-Floors are less expensive than other forms of floor construction. Then too, Q-Floors protect a building from ever becoming electrically obsolete. They also spare prospective tenants the usual overwhelming initial cost of electrical alterations. The fact that tenants can establish new electrical outlets on every exposed six-inch area of floor—in a matter of minutes, without digging trenches, gives a Q-Floor building an edge in the competitive rental market.



***Write for latest Q-Floor literature***

## H. H. ROBERTSON CO.

**2404 Farmers Bank Building**
**Pittsburgh 22, Pennsylvania**

**Offices in 50 Principal Cities**
**World-Wide Building Services**




# ABOUT EFFICIENT INSULATED PIPING SYSTEMS

School and institutional architects and engineers as well as those responsible for operation and maintenance of educational, commercial, and residential building groups, will welcome the complete descriptive technical information available in the series of catalogs and data books recently published on Ric-wiL Prefabricated Insulated Piping Systems.

Publication of these books is in keeping with the Ric-wiL policy established forty years ago of providing not only the finest insulated piping and accessories but also complete technical information for users of Ric-wiL products.

There are five books in the series, each of which deals with specific phases of insulated piping design, engineering, and installation.

**Section 480-2—Engineering Data**—A comprehensive data book containing pertinent engineering data as applied to insulated piping and steam distribution.

**Section 480-3—Typical Engineering Drawing**—Consists of a series of typical engineering drawings for insulated piping.

**Section 480-4—Insulated Piping Systems Catalog**—Contains pertinent general information about Ric-wiL Prefabricated Systems, with many illustrations of the products, their dimensions, installation, and other valuable data.

**Section 480-4A—Ric-wiL Tile and Cast Iron Conduit Catalog**—Contains complete illustrated and descriptive material dealing specifically with Sectional Tile and Cast Iron conduits, their applications and specifications.

**Section 480-5—Specification Data**—This book contains specifications for all types of insulated piping and installation procedures.

*Copies of any of the described books are available. Write to Dept. 9-X, The Ric-wiL Company, Cleveland, Ohio.*

RIC-WIL 40th YEAR DEPENDABLE INSULATED PIPING SYSTEMS 1910 · 1950

RIC-WIL
INSULATED PIPING SYSTEMS
THE RIC-WIL COMPANY · CLEVELAND, O.

OVERHEAD UNDERGROUND

FOR FORTY YEARS THE GREATEST NAME IN INSULATED PIPING SYSTEMS

# WIRING NEWS

A PERIODICAL DIGEST OF WIRING IDEAS FROM THE GENERAL ELECTRIC CONSTRUCTION MATERIALS DEPARTMENT



## Master Selector Switch Adds New Remote Control Uses

Have you stopped to consider the amazing versatility added to General Electric's remote-control wiring system by the master selector switch?

Replacing gangs of separate ON and OFF controls, the compact master selector switch, RMS-1, provides instant, positive control of up to nine different circuits. With its help you can now plan wiring systems that provide the utmost in convenience—*and*, best of all, at a cost you'll find hard to believe. Here are just a few of the step-saving advantages you can give clients by using one or more master selector switches.

### In Homes and Apartments

Instant bedside control of all interior and exterior lighting . . . an invaluable asset in emergencies. Added convenience through control of kitchen appliance outlets and attic ventilators from several different points. Control of key indoor and outdoor lights from the garage, front door, back door, and bedroom.

### In Plants and Factories

Control of fire and alarm circuits. Control of watchman's circuits and provision for pathway lighting on his rounds. Selective control of aisle lights, individual work-area lights, outlets, and small electrically-operated machinery from any desired point.

Then too, there are many applications for farms, swimming pools, parking lots, athletic fields, tourist cabins, schools, museums, hospitals—and you have probably already thought of many more. For further information simply check box (A) below.

## New Levelock Switch Box Takes Job-site Abuse



Neither hammer blows nor construction-site abuse can dislodge the side plates of the new General Electric Levelock switch box. Wedging action of a new locking mechanism locks box parts securely in place — yet is simple enough to permit fast, certain assembly of switch-gangs.

Leveling the box against the studding is also a faster, easier operation. Four contact points — instead of the usual three — prevent tilting or rocking of box during nailing.

In addition to nail-through holes, an extra set of nail holes through the side plates allows speedy gang mounting of the Levelock box direct to studding. Extra side-plate pryouts provide for out-of-the-ordinary installations. All pryouts are easily removed by a quick twist of a screwdriver.

A new single-screw ear adjusts from slightly above to 5/8-inch below the edge of the new Levelock box, while an extra-sturdy bridge across the ear adds increased strength. There's plenty of space, too, within the bridge to accommodate the device strap.

The ingenious construction of General Electric's Levelock saves time when used on either new construction or modernization work. Builders and contractors will appreciate your specifying the Levelock box, so check box (B) in the coupon and get complete information.

## Safe, Dependable . . . Easy-to-install G-E BX* Cable

More than a half-century of research and improvement are reflected in today's General Electric BX armored cable. Factory-assembled and factory-tested, BX armored cable is still the most practical metal-protected wiring system available for general purpose use. For new construction or modernization work, BX armored cable provides safe, dependable, long-term operation.

And, best of all, a BX system is a cinch to wire. A few strokes of a hacksaw and a quick twist of the wrist removes the armor and leaves the conductors ready for easy stripping. Cable armor provides grounding protection. In Awg sizes 14 and 12 a metal bonding strip is included under and in contact with the armor to provide increased conductivity in case of ground faults.

You'll like the ease and simplicity of a BX armored cable job, so make it a point to offer your customers this added protection. You'll be more than repaid by savings in installation and "call-back" time. Underwriters' Laboratories inspected, General Electric BX armored cable is available in Awg sizes from No. 6 to No. 14 in both two-conductor and three-conductor types. Specify it on top-quality jobs.

*Reg. Trade Mark of General Electric Company



## New Hung Ceiling Box†

For fast, easy installation and real savings on jobs using conduit, this new hung ceiling box is hard to beat. By specifying this new box you can virtually eliminate special couplings and pipe bending operations. Thanks to its special eight-sided design, this easy-to-handle ceiling box allows conduit to enter the knockout—over the grid structure — from all eight angles. In addition, the lower row of knockouts permits conduit runs parallel to channels.

Four-point suspension of the box is provided by two sturdy mounting bars. With bars in a parallel position, the box slides back and forth for quick, easy centering. When bars are spread slightly, the box locks securely into any desired position for easy wiring. For full particulars check box (C) at left.

(†U. S. Patent No. 1,954,481)

Section K15-115

Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut

☐ A—Remote-control Master Switch

☐ B—Levelock Switch Box

☐ C—Hung Ceiling Box

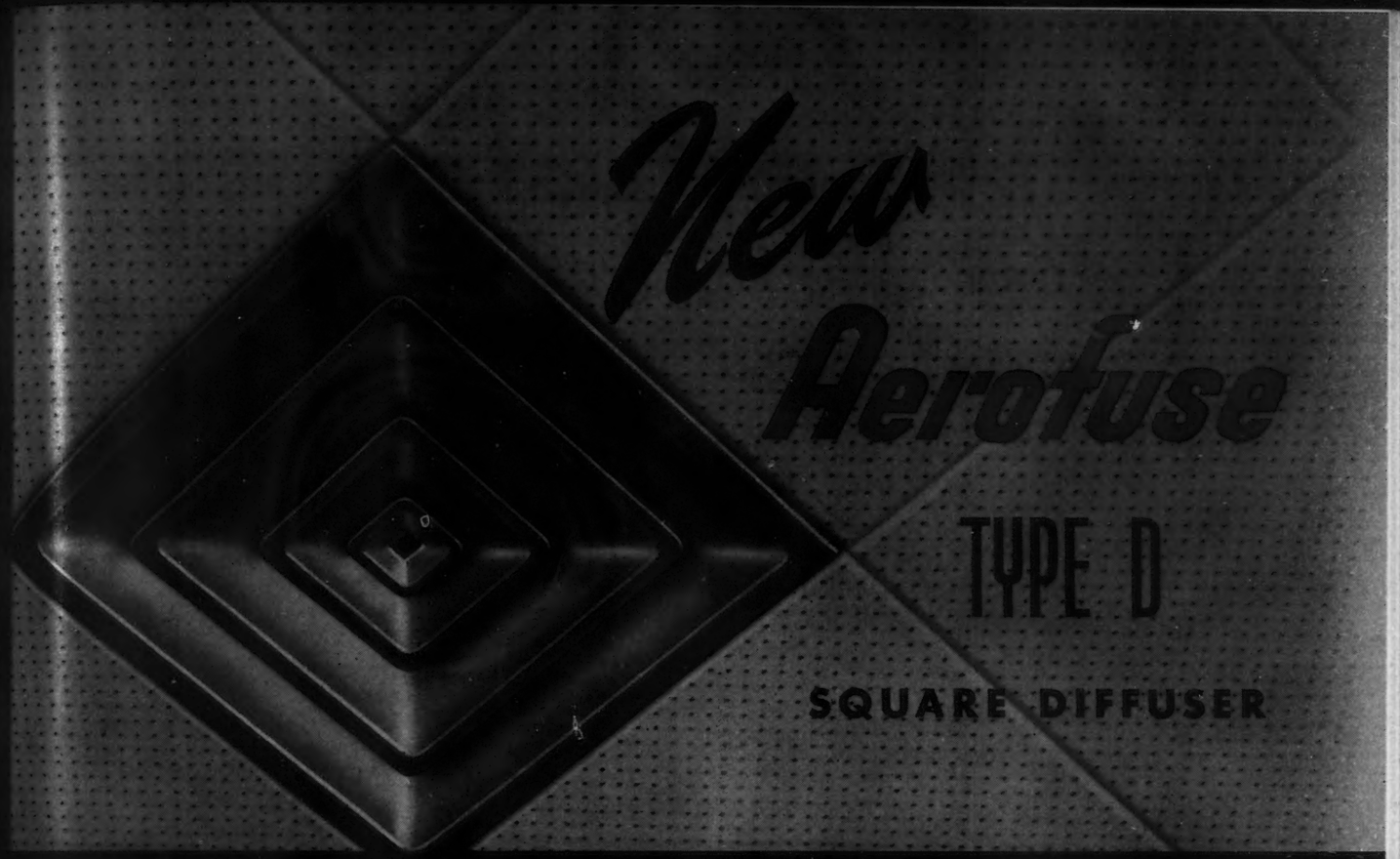
Name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____

GENERAL ELECTRIC

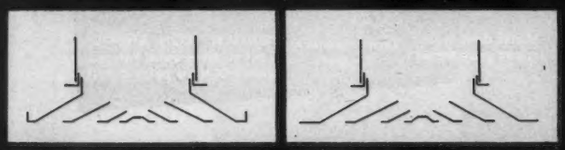


# New Aerofuse

## TYPE D

### SQUARE DIFFUSER

**360° AIR DISTRIBUTION or any required pattern at the vital point of air delivery**





Styled to harmonize with modern architectural design . . . engineered for efficient performance . . . the new Type D Aerofuse is the answer to demands of both architect and engineer for a square diffuser that will deliver supply air in a 360° pattern. Assuring a complete flexibility to meet specific job requirements where circular distribution is not practical, baffles may be used to block off any portion of the diffuser and direct air stream in a variety of patterns, as illustrated below.

Two types are available . . . Type DT for flush mounting in standard acoustical tile ceilings . . . Type DE, for installation on plaster ceilings. Both types are listed in five sizes (12"x12", 16"x16", 20"x20", 24"x24", 30"x30") with neck diameters from 6" to 15".





**For complete details on the Type D Aerofuse, size selection information and engineering data . . . send for Catalog 103.**

TUTTLE & BAILEY inc

NEW BRITAIN, CONNECTICUT

# LOW-COST, DEPENDABLE RUST-RESISTANCE

## ... for all Types of Sheet Metal Work

You get it in TONCAN IRON—the architect's favorite for every installation in which rust may be a problem.

TONCAN is an *alloy* iron. Its basic ingredient is highly-refined open hearth iron. Copper is added *—twice as much* as in ordinary copper-bearing steels or irons. Then the correct amount of Molybdenum is alloyed to bring out the full effectiveness of this double dose of copper.

This high rust-resistance is no mere surface quality. It extends *all through* the iron. Fabrication does not lessen it. TONCAN IRON readily can be formed, punched, sheared, riveted, soldered, welded and otherwise worked—and still it fights rust.

How about cost? . . . only slightly higher than less rust-resistant materials when you figure the total labor-material-haulage costs of any job. For your client, TONCAN IRON quickly becomes a real saving through its long years of rust-resisting service.

You'll find more information in Sweet's Architectural File, or write to:

**REPUBLIC STEEL CORPORATION**
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N.Y.

**for 40 years . . . HIGHEST RUST-RESISTANCE OF ALL FERROUS MATERIALS IN ITS PRICE CLASS**

### Here's the story

COPPER-BEARING STEEL



Open hearth steel + Copper = Ordinary copper-bearing sheets

TONCAN IRON



Open hearth iron + Molybdenum in proper proportion + Twice as much copper = TONCAN IRON SHEETS, most rust-resistant ferrous sheets in their price class!



*Republic*

REPUBLIC STEEL

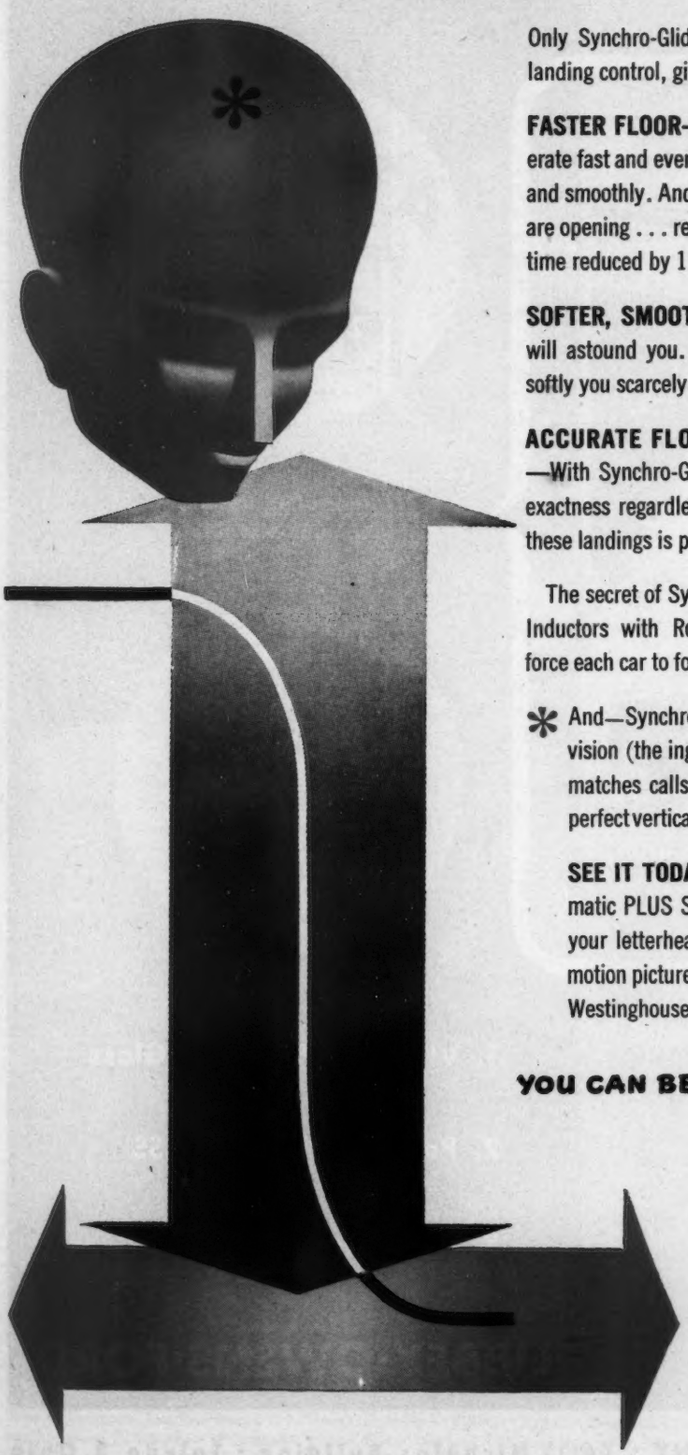
**TONCAN COPPER MOLYBDENUM IRON**

—for ducts, gutters, conductor pipes, roofing, siding, tanks, ventilators, skylights, hoods and other sheet metal applications requiring rust-resistance—and for corrugated metal drainage products.

**NOW—SELECTOMATIC *PLUS***

# *Synchro-Glide Landing*

**cuts elevator travel time 1½ seconds per stop**



Only Synchro-Glide Landing, the new, Westinghouse-perfected automatic landing control, gives you all these remarkable features:

**FASTER FLOOR-TO-FLOOR TIME**—Synchro-Glide makes the car accelerate fast and evenly to the maximum possible speed . . . slow down quickly and smoothly. And—as the car is making its perfect-level landing, the doors are opening . . . ready for passengers to exit. The total result—floor-to-floor time reduced by 1½ seconds per stop!

**SOFTER, SMOOTHER LANDINGS**—The smooth, uniform gliding stops will astound you. Synchro-Glide's dynamic braking action lands a car so softly you scarcely feel the brake set.

**ACCURATE FLOOR-LEVEL LANDINGS UNDER ALL CONDITIONS**—With Synchro-Glide you are sure of floor-level landings of unmatched exactness regardless of load or temperature changes. Yet, the accuracy of these landings is protected while passengers are entering or leaving the car.

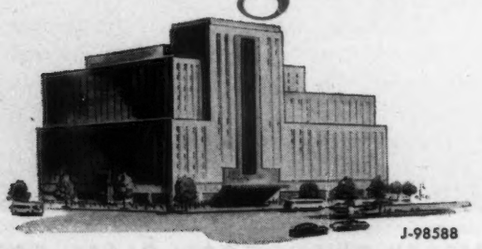
The secret of Synchro-Glide Landing is the teaming of experience-proven Inductors with Rototrol—the exclusive Westinghouse developments that force each car to follow a predetermined pattern.

* And—Synchro-Glide Landing is integrated with Selectomatic Supervision (the ingenious "electrical brain" that instantly and automatically matches calls to cars to floors.) This integration gives you the most perfect vertical transportation system you can buy . . . Selectomatic PLUS!

**SEE IT TODAY**—right in your own office! See and hear how Selectomatic PLUS Synchro-Glide Landing solves elevator problems. Write on your letterhead and we'll gladly arrange a showing of our new, sound motion picture "Synchro-Glide Landing for Elevators." Elevator Division, Westinghouse Electric Corporation, Dept. D-1, Jersey City, N. J.

**YOU CAN BE SURE... IF IT'S**

# Westinghouse



J-98588

# VISUAL FRONT GLASS

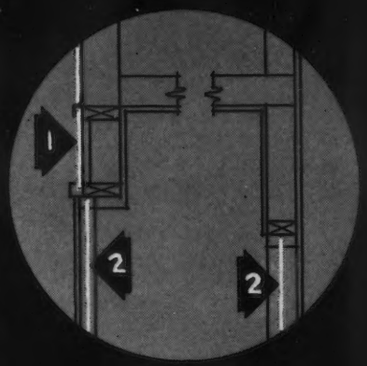
## DETAILS FOR YOUR STOREFRONT FILE

IT'S EASY TO SEE why glass is so prominent in today's traffic-building storefronts. Glass has a unique combination of characteristics that storefronts require:

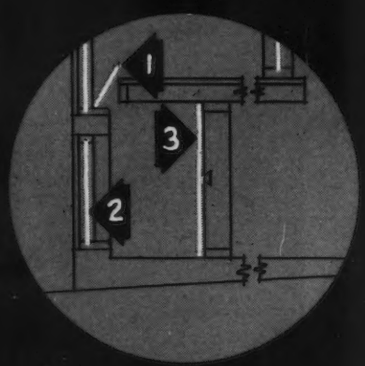
**Transparency plus a hard, impervious surface.** Plate Glass is practically immune to weathering—maintains its lustrous beauty and clarity.




DESIGNER: RAY EMERSON, DAVENPORT, IOWA




Vertical sections through show window.




**Color**—*Vitrolite** glass paneling is made with color all the way through. It doesn't need refinishing and is unaffected by weather.

**Toughness plus transparency**—in clear doors of *Tuf-flex** tempered plate glass that extend an invitation to enter.

The Visual Front has won its popularity by the beauty of its simplicity and on its merchandising power. For more information on Visual Fronts and on uses of glass in them, write for our new Visual Fronts book.

1. *VITROLITE* Structural Glass
2. Polished PLATE GLASS
3. Plate Glass MIRRORS

**LIBBEY·OWENS·FORD**

**LIBBEY·OWENS·FORD GLASS COMPANY · 66115 Nicholas Building · Toledo 3, Ohio**

# Keep heat and heating costs from "HITTING the CEILING"




LET Thermolier Unit Heaters bring both heat – and heating costs – down to a *reasonable* level.

**HEATING COMFORT** Thermolier Unit Heaters provide quick heating from a cold start. Desired temperatures are easily maintained within a close range. Heat is uniformly distributed in the working zone by forced air circulation. It is a very flexible system because different or changing heating requirements are easily satisfied by means of different models, a range of capacities, single – or two-speed motors and individual thermostatic controls.

**LOW FIRST COST** Thermolier Unit Heaters are so efficient and so compact that their heating capacity is often equivalent to the capacity of cast iron radiation or pipe coils of twice the cost. Additional savings are effected because the system requires a proportionately smaller amount of pipe, fittings and accessories.

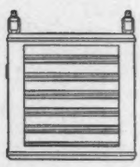
**ECONOMY OF OPERATION** Heat is forced down to the working level . . . not banked uselessly at the ceiling level. Heat is turned on and off merely by throwing a switch either manually or automatically by simple thermostatic controls. The rapid response means that heat is furnished only when and where it is wanted . . . no heat is wasted.

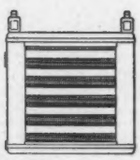
**ADAPTABILITY TO EQUIPMENT AND FLOOR LAYOUT** Thermolier Unit Heaters are widely used in industrial plants and warehouses, garages, stores and public buildings. The units and the simple piping are overhead where they do not interfere with arrangement of operating machinery or equipment and do not take up valuable floor or wall space. Units are easily relocated at any time to meet changes in layout.

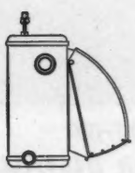
**THERMOLIER UNIT HEATERS HAVE IMPORTANT CONSTRUCTION ADVANTAGES** The design of Thermolier Unit Heaters is the product of Grinnell Company's 100 years of heating experience. Heating experts like Thermolier's dependable operation, freedom from maintenance troubles and durability. Typical of its construction features is the patented internal cooling leg which permits the use of a plain thermostatic trap, the simplest, least expensive kind of a trap. Other features are built-in drainage, continuous rated capacity and provisions for expansion of U-tubes.

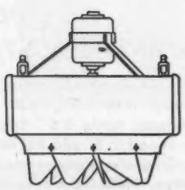
Get in touch with Grinnell or your local Thermolier distributor.

There is a type and capacity of Grinnell Thermolier for maximum heating results under every condition.


textile model


horizontal delivery


velocity nozzle


vertical delivery

100th ANNIVERSARY
WHENEVER PIPING IS INVOLVED

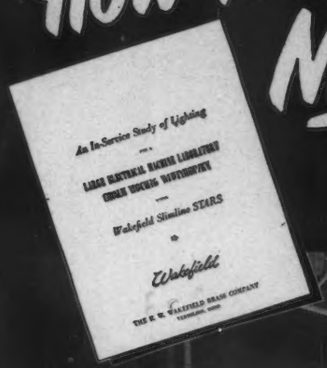
# GRINNELL

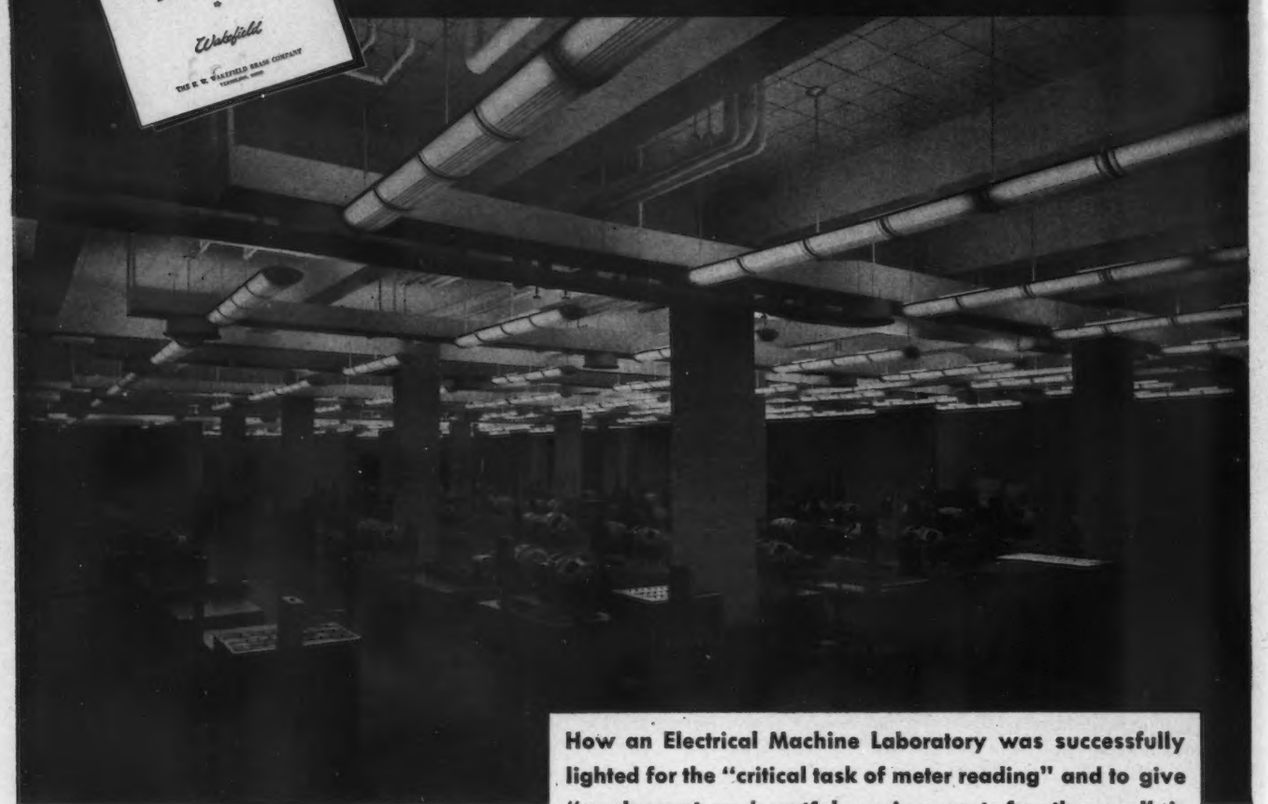
THERMOLIER UNIT HEATERS

Grinnell Company, Inc., Providence, R. I. Branches: Atlanta • Billings • Buffalo • Charlotte • Chicago • Cleveland • Cranston • Fresno • Kansas City • Houston • Long Beach Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Pocatello • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

# How To Create A Modern Laboratory

## as demonstrated at this *midwestern university*



**How an Electrical Machine Laboratory was successfully lighted for the "critical task of meter reading" and to give "a pleasant and restful environment for the eye" is reported in this *In-Service Study of Lighting* by a registered professional engineer. In spite of undesirable structural elements and physical characteristics of laboratory equipment, the illumination is highly uniform on horizontal and vertical working surfaces, and is free from inherent shadows, high brightness contrasts and objectionable glare. For your copy of the study, write**

### ANOTHER WAKEFIELD STAR INSTALLATION

**The laboratory described is lighted with Wakefield Stars using four 96″, 300 ma. 4500° Slimline Lamps. Fixtures have 3′6″ suspension, 8′ spacing, and are grouped in 8′ and 16′ sections as permitted by existing ceiling obstructions—taking full advantage of ceiling bays. Note the similarity in intensity between the Star reflectors and the ceiling above, that made possible taking this photo with the Stars as the main source of illumination.**

**THE F. W. WAKEFIELD BRASS COMPANY, VERMILION, OHIO**

# Wakefield Over-ALL Lighting


THE GRENADIER


THE COMMODORE


THE STAR


THE WAKEFIELD CEILING

WAKEFIELD W

# MEDART

## STEEL LOCKERS



## 5 POINT SUPERIORITY

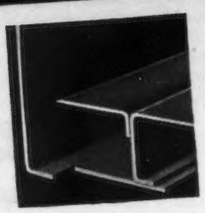
**1**

SECURITY because the door locking mechanism *is pickproof* . . . dual-latch . . . concealed in the channel lock rod it is pre-locking, positive latching. Operates whether door is slammed or gently shut. Exclusive Medart patent.



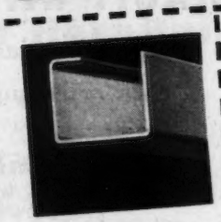
**2**

STURDY BOTTOMS . . . to take punishment. Full width ¼ inch flange of bottom rests solidly on heavy 16 gauge steel frame member. No possibility of breaking or sagging. Be sure to compare this Medart feature with ordinary type locker bottoms. FM50-4



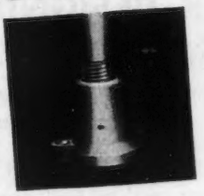
**3**

LONG LIFE because of channel frame construction . . . 16 gauge steel, top, bottom and side frame members ensure rigidity and added strength. All parts electrically welded into solid square frame to assure proper fitting of door.



**4**

ADJUSTABLE LEGS that can be raised or lowered to compensate for unevenness of floor. Legs are correctly spaced every two or three lockers (depending on locker width) to facilitate cleaning under lockers.



**5**

STYLING . . . for efficiency and modern streamlined appearance. Absence of hinge bolt-heads on doors, styling of louvers, handle and legs give Medart Lockers that smart modern "functional" look. Simplicity that bespeaks smooth operation.

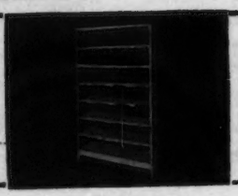


MEDART STEEL LOCKERS available in all standard types and sizes . . . either recessed or free standing. Write for descriptive literature . . . Send your plans for suggestions.

FRED MEDART PRODUCTS, INC.
3540 DEKALB ST. ST. LOUIS 18, MO.
Leadership for Over 75 Years in School Equipment

**P.S.**

Wire Basket Shelving and Wire Baskets for use where the privacy of Steel Lockers is not required. Write for descriptive literature.



Medart Steel Lockerobes with "Simultaneous Opening-Master Door Control" for elementary school use. Write for descriptive literature.





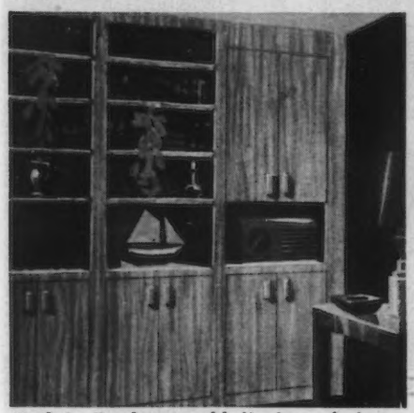
*Paneling the Fireplace Wall* is an inexpensive method of decorative accent. Remind clients that interior Weldwood is guaranteed for the life of their home.



*Frame a Picture Window* in the soft luxury of Weldwood, and you have a striking center of interest. Another of Weldwood's decorative advantages.



*A Dining Room Wainscot* can be installed to blend with any interior . . . traditional or modern. You'll find ready agreement with this recommendation.



*Built-in Bookcases add* dignity and charm. Design them with or without cabinets, according to your client's individual needs.



*A Television Corner* provides an attractive setting for this coming "must" in home furnishing. Adds a distinctive touch that clients like.



*Corner Cupboards* fit in almost anywhere. And clients quickly appreciate the charm and convenient storage space this addition brings.

# 6 SUGGESTIONS

## FOR DESIGNING INEXPENSIVE BEAUTY INTO CLIENTS' HOMES

Clients will be quick to appreciate how *much* appeal Weldwood® can add to any home . . . in so many ways . . . at comparatively *little* cost.

If you're designing a *Builder's* project, your suggestions will be welcomed because . . . regardless of a still-existing housing shortage . . . prospective buyers are looking more and more for "plus-es" that lift new homes out of the ordinary.

Panel a room with Weldwood . . . finish one wall in it . . . or specify it even for just a corner cupboard . . . and you do just that.

If you're designing a new home . . . or even remodeling . . . for a *Private Owner,* he'll thank you because, in most cases, you'll have added just the touch he wants, with Weldwood.

The few sketches shown above barely suggest the possibilities. Weldwood is available in birch, oak, walnut and many other fine decorative hardwoods, and is unusually versatile. Try it. You'll find it a stimulating, rewarding material with which to work.

**WELDWOOD Plywood**

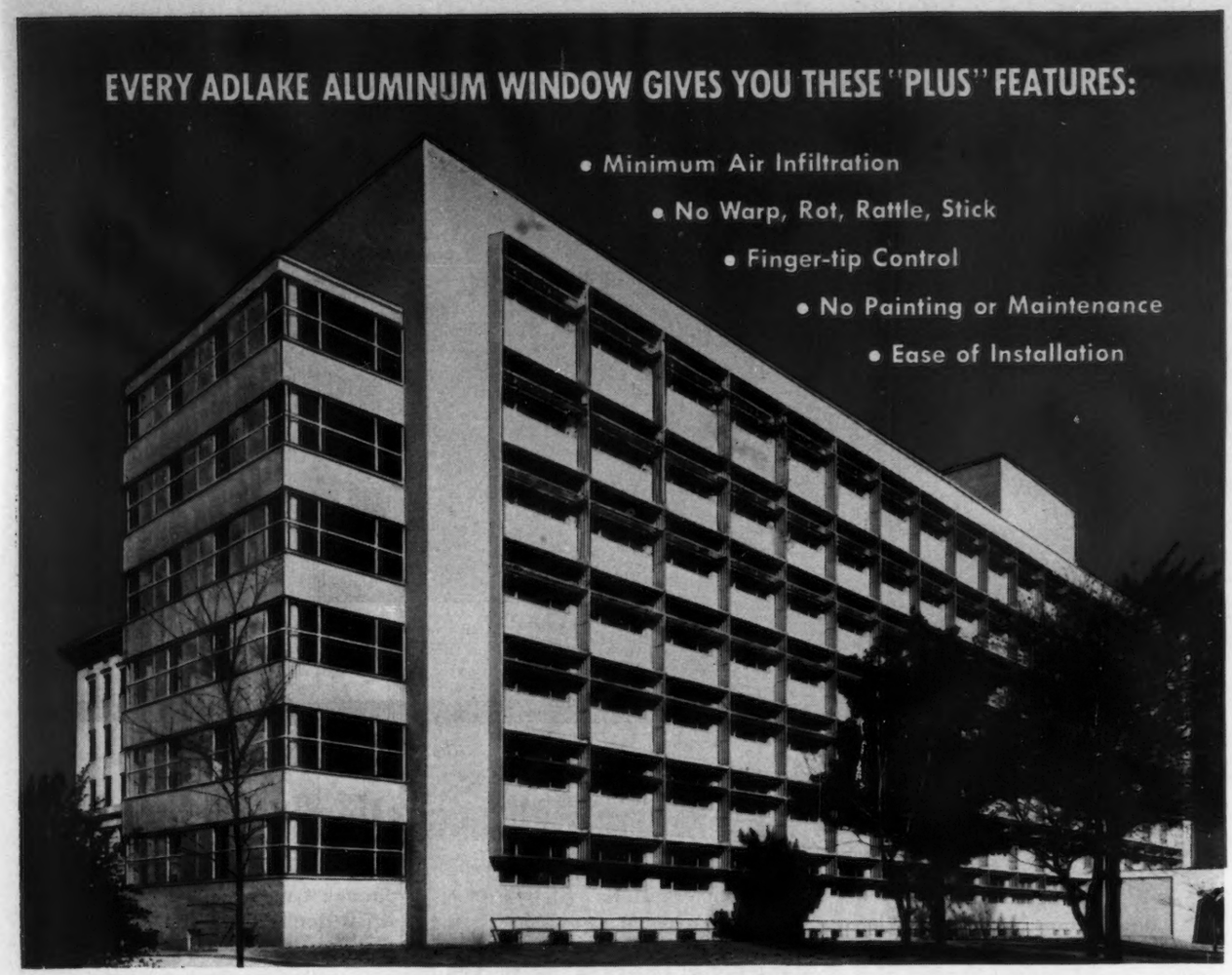
*Manufactured and distributed by*

**UNITED STATES PLYWOOD CORPORATION**

New York 18, N. Y.

*and* **U. S.-MENGEL PLYWOODS, INC., Louisville 1, Ky.**

Branches in Principal Cities • Distributing Units in Chief Trading Areas • Dealers Everywhere




Georgia Baptist Hospital, Atlanta, Ga. Architects: Stevens and Wilkinson, Inc. Contractor: Henry C. Beck Co.

## For Georgia Baptist Hospital, It's ADLAKE . . .

### The Weatherproof Windows That Pay for Themselves!

**YES,** the ADLAKE ALUMINUM WINDOWS in handsome Georgia Baptist Hospital form a perfect weather seal against air infiltration—and ultimately they will *pay for themselves* by eliminating all maintenance costs except routine washing! And what's more, they'll last as long as the hospital itself!

QUALITY APPROVED

In a test conducted by an independent research organization, an ADLAKE ALUMINUM WINDOW was opened and closed *one-million times* —and after the millionth opening still moved as easily, and fitted as snugly, as it did before its test! Only ADLAKE WINDOWS offer the combination of woven-pile weather stripping and patented serrated guides that assures minimum air infiltration and absolute finger-tip control. They keep their smart, modern good looks and easy operation for the life of the building.

*Find out* how ADLAKE WINDOWS can save you *money!* For full information, drop a card to The Adams & Westlake Company, 1102 N. Michigan, Elkhart, Indiana. No obligation, of course.

THE
Adams & Westlake
COMPANY
Adlake
TRADE MARK
Established 1857 • ELKHART, INDIANA • New York • Chicago



KLEINHANS MUSIC HALL, BUFFALO, NEW YORK... *Architect:* F. J. & W. A. Kidd... *Designer:* Eliel and Eero Saarinen... *Acoustical Consultant:* Charles Potwin.

# What makes Kleinhans Music Hall acoustically perfect?

A FEW weeks ago, Buffalo's 10 year old Kleinhans Music Hall underwent a rigid acoustical examination by eminent sound control experts from M.I.T. They pronounced it one of the world's five most-acoustically-perfect concert halls.

Inspired design and the use of the finest acoustical materials helped make it so.

The Gold Bond products that went into Kleinhans Music Hall will serve just as effectively in schools, hospitals, offices, factories and bowling alleys. Gold Bond Acoustical Applicators, located in all key cities, are factory-authorized experts, equipped to solve *any* sound control problem you may have. They will work with you during the planning stage, and figure cost estimates at no obligation; but more important, their supervision follows right through to the finish, insuring complete satisfaction to you and your client.

Choose from Tiles of metal (Acousti-metal), fireproof mineral wool (Travacoustic), wood fibre (Acoustifibre, drilled, and low cost Econacoustic), as well as new lightweight Acoustical Plaster...all fully described in Sweet's.

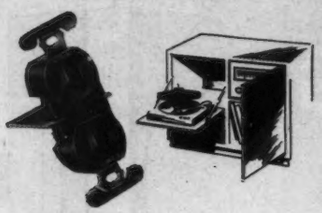
**NATIONAL GYPSUM COMPANY**
**BUFFALO 2, NEW YORK**



The 52-ft. long bar ceiling is faced with Travacoustic, National Gypsum's new fireproof mineral wool tile that closely resembles travertine stone.

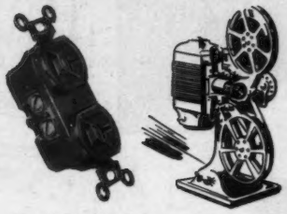
*Remember these*

## WHEN YOU PLAN FOR PLAY



### DUPLEX RADIO OUTLET

For aerial, ground and power. GH Radio Cap is supplied. Impossible to reverse aerial and ground or power connections.



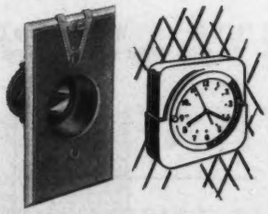
### BACK-WIRED SIDE-WIRED DUPLEX OUTLET

Duplex outlet is easy and economical to install, provides lifetime service and convenience for connecting electric appliances.



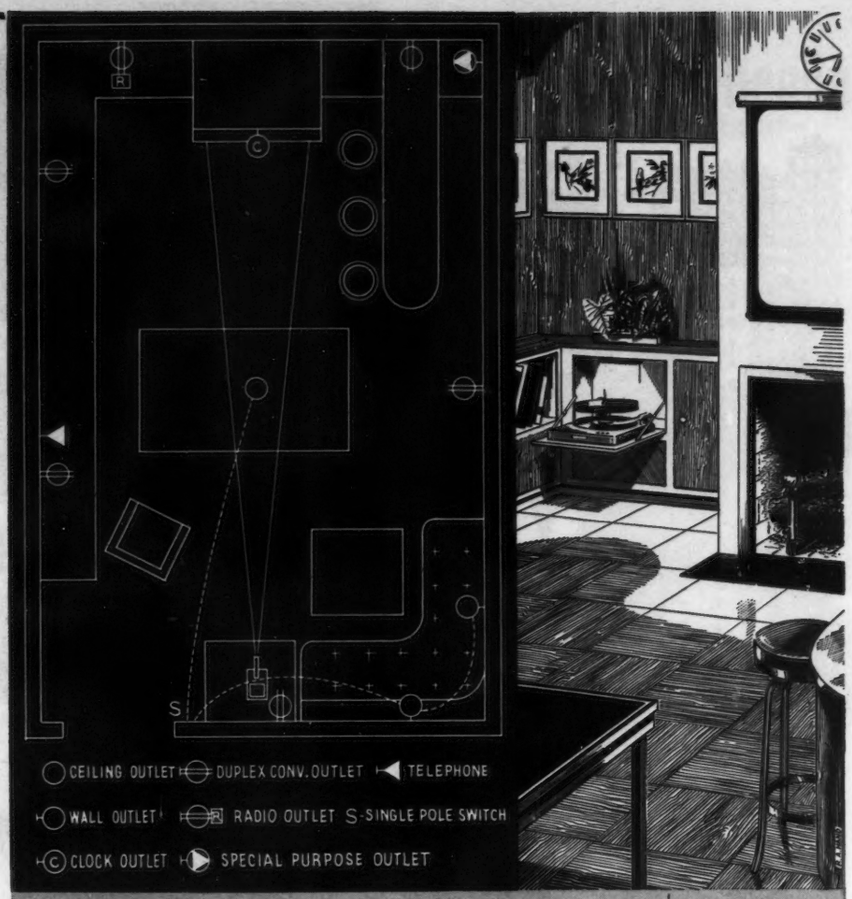
### FLUSH TUMBLER SWITCH

Small, easy to install; tough; dependable. Specify these for general lighting control and at all room entrances.



### CLOCK OUTLET

No wires exposed. Clock hangs picture-fashion on wall. Recess for plug cap provides completely flush job.




# AT TIME OF CREATION PLAN FOR RECREATION

## WITH H&H WIRING DEVICES IN PLAY ROOM OR HOBBY ROOM

Electrical convenience in recreation or hobby rooms calls for meeting the needs of today and for twenty years to come. Handy switches for general lighting can be supplemented by many plug-in outlets for electric trains, radio, television, projector, table lamps, corn popper, and electric clock, and be sure the snack bar is electrically convenient too. You'll find the complete line of H&H wiring devices contains *everything* in modern, dependable, service-proved units, standard and special. Plan to specify H&H on every job.

**For more information, write today to: 1911 Laurel Street, Hartford 6, Connecticut. Idea-prompting Good Housekeeping booklet "Electrical Planning In The Home" sent on request.**

**QUALITY-MINDED ARCHITECTS SPECIFY**



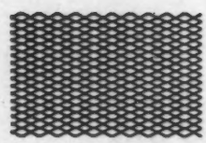

HART H & H HEGEMAN DIVISION

WIRING DEVICES — ENCLOSED SWITCHES

THE ARROW-HART & HEGEMAN ELECTRIC COMPANY
HARTFORD, CONNECTICUT

**Branch Offices: Boston, Chicago, Dallas, Denver, Detroit, Los Angeles, New York, Philadelphia, San Francisco, Syracuse — In Canada: Arrow-Hart & Hegeman (Canada) Ltd., Mt. Dennis, Toronto**



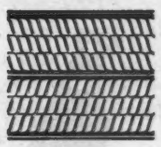
**Wheeling Diamond Lath**
Standard and Bantam Mesh



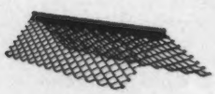
**Wheeling Bar-X-Lath**
with solid steel ribs



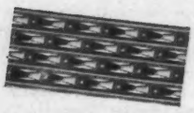
**Wheeling ¾" and ⅜" Rib Lath**



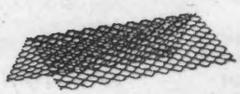
**Wheeling Flat Rib Metal Lath**



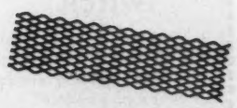
**Wheeling Expansion Corner Bead**



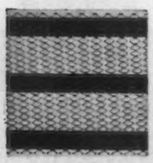
**Wheeling Arch Lath**
for extra fire resistance



**Wheeling Corner Lath**
an improved cornerite



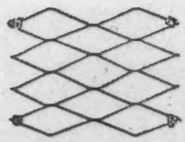
**Wheeling Strip Lath**
for strengthening joints



**Wheeling Combination Lath.** Diamond or Bar-X-Lath



**Wheeling Cold Rolled Channels**



**Wheeling Stucco Binder Mesh**



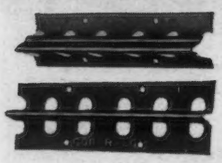
**Wheeling Bar-Z-Partitions**
Studs, track, and shoes

# Leading architects and builders always turn to Wheeling

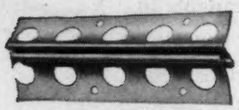
• Wherever you see buildings going up, you will see Wheeling products being put to good use.

Architects and builders know that it pays to back up good design and workmanship with the finest materials available. And Wheeling offers them a complete line of dependable, high-quality steel building materials...each soundly designed on the basis of 60 years of research and experience.

A job done with Wheeling is always a job done well. Wheeling products are available at 15 convenient warehouse points and leading dealers across the country. Write today for free descriptive literature or for special information.



Wheeling Curved and Straight Point Base Screed



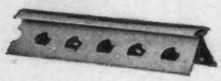
Wheeling Metal Picture Mould



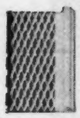
Wheeling Scallop Edge Corner Bead



Wheeling Flat Apron Corner Bead



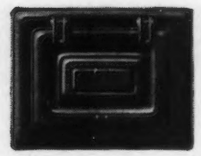
Wheeling Bull Nose Bead



Wheeling Casings and Corner Grounds



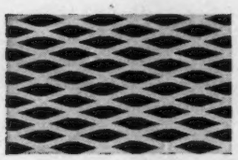
Wheeling Ashpit and Clean-out Doors



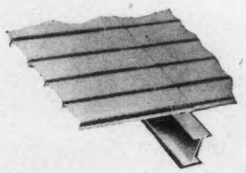
Wheeling Coal Doors



Wheeling Anti-Skid, Expanded Metal



Wheeling Flattened Expanded Metal



Wheeling Tri-Rib Roof Deck



Wheeling Expanded Metal

## WHEELING CORRUGATING COMPANY

***BUILDING MATERIAL DIVISION***

**WHEELING, WEST VIRGINIA**

Wheeling CORRUGATING COMPANY Reg. U.S. Pat. Off.

ATLANTA BOSTON BUFFALO CHICAGO COLUMBUS DETROIT KANSAS CITY
LOUISVILLE MINNEAPOLIS NEW ORLEANS NEW YORK PHILADELPHIA RICHMOND ST. LOUIS

# WHY TROFFERS? WHY DAY-BRITE?

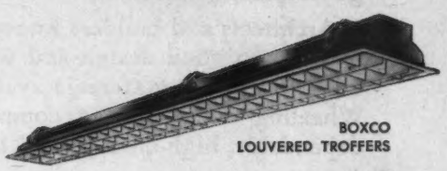
There's this to say about troffer lighting: *good taste and good light!* The smart, modern appearance of recessed troffers . . . the smooth, unbroken surface of the ceiling . . . the endless variety of lighting patterns . . . all contribute an atmosphere of elegance and discrimination.

And when interiors deserve top-quality troffer lighting, there's no equal for Day-Brite troffers . . . in appearance, in quality, in true economy. Day-Brite quality is especially important, for troffer installations are permanent . . . *you must be sure of long-term, trouble-free performance before you buy!*

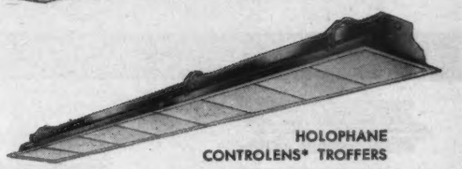
Six basic groups to choose from . . . each available in 96" Slimline and 48" Standard Fluorescent . . . each available in snap-in and flange types . . . each adaptable for countless geometric patterns or for unit or continuous installations. Fine lighting equipment? Yes . . . and fine lighting *value:* value that *only* famous Day-Brite quality can produce.



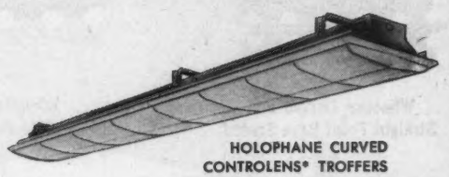
**A COMPLETE TROFFER LINE**



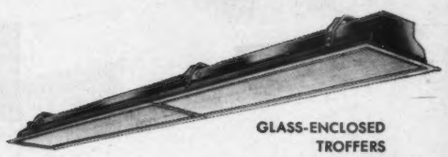
BOXCO LOUVERED TROFFERS



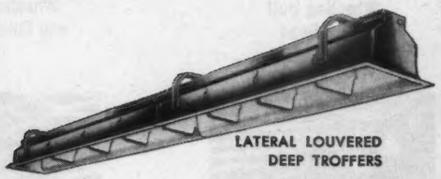
HOLOPHANE CONTROLENS* TROFFERS



HOLOPHANE CURVED CONTROLENS* TROFFERS



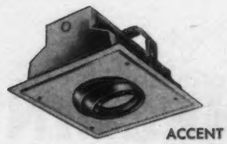
GLASS-ENCLOSED TROFFERS



LATERAL LOUVERED DEEP TROFFERS



PARABOLIC TROFFERS



ACCENT UNITS— FIXED AND ADJUSTABLE

*® HOLOPHANE CO.

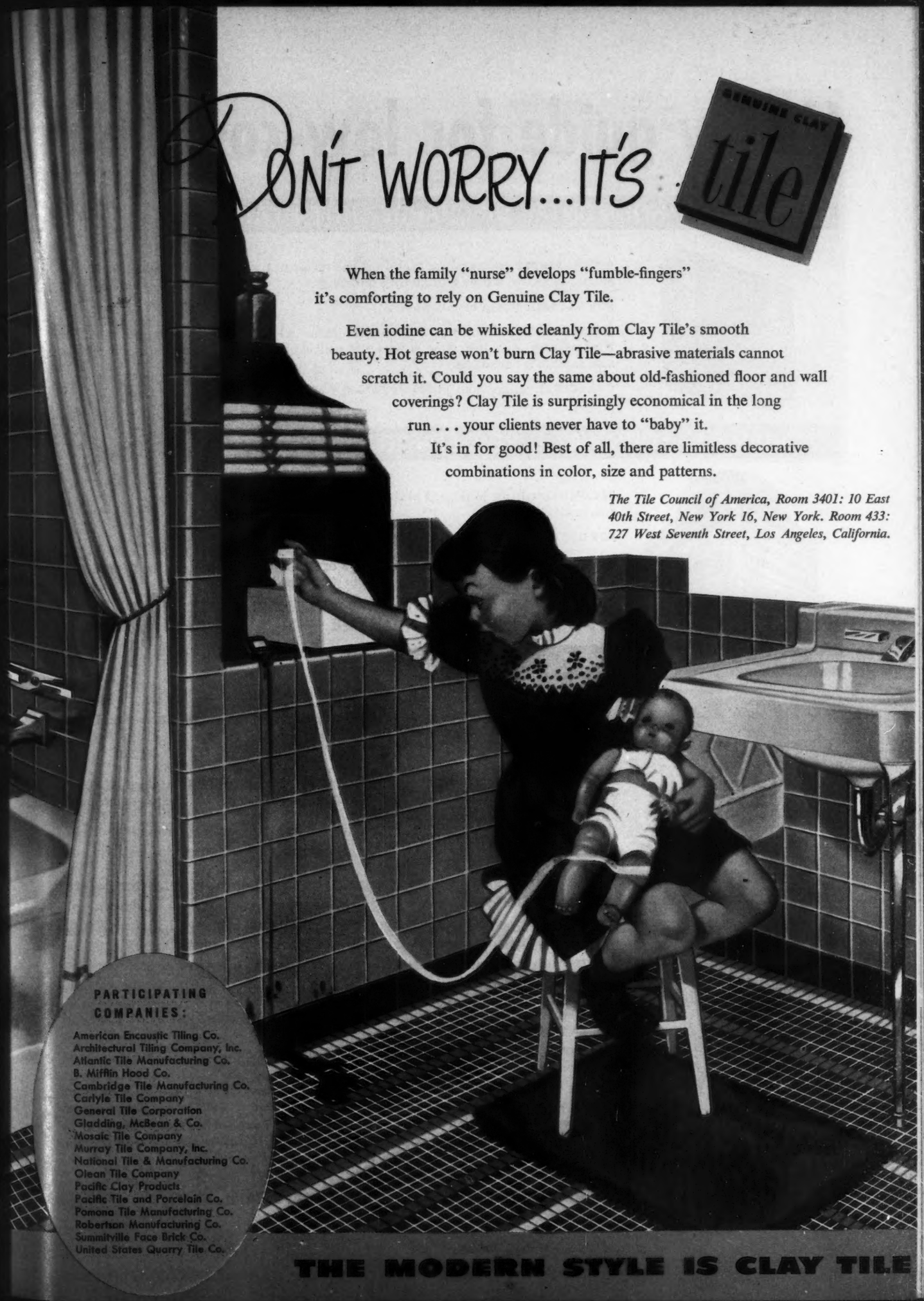
**DISTRIBUTED NATIONALLY BY LEADING ELECTRICAL WHOLESALERS**

Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis 7, Mo.
In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario

034

***ONLY QUALITY IS ECONOMICAL***

"DECIDEDLY BETTER"
**DAY-BRITE**
*Lighting Fixtures*


DON'T WORRY...IT'S
GENUINE CLAY
tile
When the family "nurse" develops "fumble-fingers" it's comforting to rely on Genuine Clay Tile.
Even iodine can be whisked cleanly from Clay Tile's smooth beauty. Hot grease won't burn Clay Tile—abrasive materials cannot scratch it. Could you say the same about old-fashioned floor and wall coverings? Clay Tile is surprisingly economical in the long run . . . your clients never have to "baby" it.
It's in for good! Best of all, there are limitless decorative combinations in color, size and patterns.
The Tile Council of America, Room 3401: 10 East 40th Street, New York 16, New York. Room 433: 727 West Seventh Street, Los Angeles, California.
PARTICIPATING COMPANIES:
American Encaustic Tiling Co.
Architectural Tiling Company, Inc.
Atlantic Tile Manufacturing Co.
B. Mifflin Hood Co.
Cambridge Tile Manufacturing Co.
Carlyle Tile Company
General Tile Corporation
Gladding, McBean & Co.
Mosaic Tile Company
Murray Tile Company, Inc.
National Tile & Manufacturing Co.
Olean Tile Company
Pacific Clay Products
Pacific Tile and Porcelain Co.
Pomona Tile Manufacturing Co.
Robertson Manufacturing Co.
Summitville Face Brick Co.
United States Quarry Tile Co.
THE MODERN STYLE IS CLAY TILE

# Handy guide for low-cost heat

## CARRIER 46U HORIZONTAL DISCHARGE UNIT HEATER



**RECOMMENDED** for garages, factories and other industrial spaces as well as beauty shops, exclusive stores and quality buildings.

**FOR USE** with steam or hot water.

**ADVANTAGES:** Combines attractive appearance with quiet operation and sturdiness that assures long life. New single-row coil construction offers less air resistance and facilitates cleaning.

**CAPACITIES** range from 13,400 to 200,000 Btu's per hour.

## CARRIER 46S FOUR-WAY DIRECTED-FLO UNIT HEATER



**RECOMMENDED** for buildings best served by quick heat from relatively high ceiling suspension.

**FOR USE** with steam or hot water.

**ADVANTAGES:** Air discharges from 1, 2, 3 or 4 sides provide maximum flexibility in air distribution. Heat can be directed in any quantity and at any angle.

**CAPACITIES** range from 49,000 to 500,000 Btu's per hour.

## CARRIER 46T GAS-FIRED UNIT HEATER



**RECOMMENDED** for clean, economical heat in offices, factories, warehouses and other types of buildings where gas is available.

**FOR USE** with gas.

**ADVANTAGES:** Heat exchanger *and* combustion chamber of Aluminized Steel are welded into one leakproof assembly for long, trouble-free life. Requires no pipes, ducts, boilers.

**CAPACITIES** range from 70,000 to 230,000 Btu's per hour input.

## CARRIER 46PQR HEAT DIFFUSER



**RECOMMENDED** for ventilating as well as heating large enclosed spaces in factories, warehouses, hangars, garages and similar buildings.

**FOR USE** with steam or hot water.

**ADVANTAGES:** Multiple discharge outlets with adjustable louvres permit air to be delivered in practically any direction. Sectionalized for easy handling, lower erection costs and convenience in installing. Floor, wall or ceiling mounted—right or left assembly.

**CAPACITIES** range from 115,000 to 1,570,000 Btu's per hour.

**Pick the Carrier Unit Heater that's right for the job and you're assured maximum efficiency at minimum fuel cost. Every Carrier Unit is field-tested for superior performance, and engineered and constructed for years of service. Whatever its style, size or type, you get plus values when you install a Carrier Unit Heater. Carrier Corporation, Syracuse, New York.**

Carrier

**AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING**



Specify

# ANACONDA

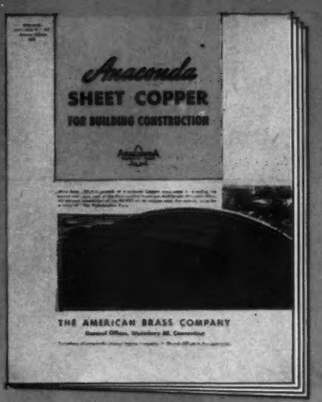
## COLD ROLLED COPPER

**Here's why**—Laboratory tests and studies in the construction field have demonstrated that cold rolled, light-tempered sheet copper, commonly known as cornice temper copper, is the best quality, most satisfactory material for copper roofing of all types.

Cornice temper copper, with its greater stiffness and higher yield strength, is better able to distribute the stresses induced by contraction and expansion caused by temperature changes and to eliminate sharp local buckling. The stiffer sheets also slide more readily in expansion joints and other mechanical devices used to absorb contraction and expansion.

Ask your supplier for ANACONDA Sheet Copper. It is available in all standard sizes and weights for roofing, flashing, valleys, hanging and built-in gutters, leaderheads and leaders. He also handles such specially developed ANACONDA products as Economy* Copper Roofing, Economy Strip Copper and ANACONDA Through-Wall Flashing. 5034

*Reg. U. S. Pat. Off.




**Get this new, helpful Anaconda Bulletin**

*Ask for the 1951 bulletin "ANACONDA Sheet Copper for Building Construction." It's new and up to date, based on extensive investigation and practical experience. Address The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.*

## You can build it better with ANACONDA® COPPER



# Architectural Concrete

## *chosen for huge Metropolitan Life housing project*

Parklabrea, near Los Angeles' famous "Miracle Mile" Wilshire Boulevard district, is probably the biggest architectural concrete job ever built in the United States. Owned by the Metropolitan Life Insurance Company, it will provide 2,754 dwelling units of architectural concrete. Part of this 176-acre housing development was begun before the war. Present construction includes eighteen 13-story buildings and seven 2-story garages.

Architectural concrete was chosen for this project because it combines economy, beauty, durability and firesafety. Moreover, both structural and ornamental parts could be cast in one operation.

Architects for the Parklabrea housing development are Leonard Schultze & Associates, New York, represented in Los Angeles by Gordon B. Kaufmann and J. E. Stanton. General contractor is Starrett Bros. and Eken, Inc., New York. Structural engineers are Bowen, Rule and Bowen.

Whether you are designing a huge rental development like the Parklabrea project or a small commercial structure, architectural concrete is an ideal construction material. Versatile and adaptable, it can be used to create imposing and functional schools, hospitals, churches, theaters, office buildings, apartments and other structures. Concrete's long life and low maintenance cost result in ***low annual cost.*** That's important to owners, investors and taxpayers alike.

For additional information about architectural concrete write for free, illustrated literature. It is distributed only in the United States and Canada.

**PORTLAND CEMENT ASSOCIATION**

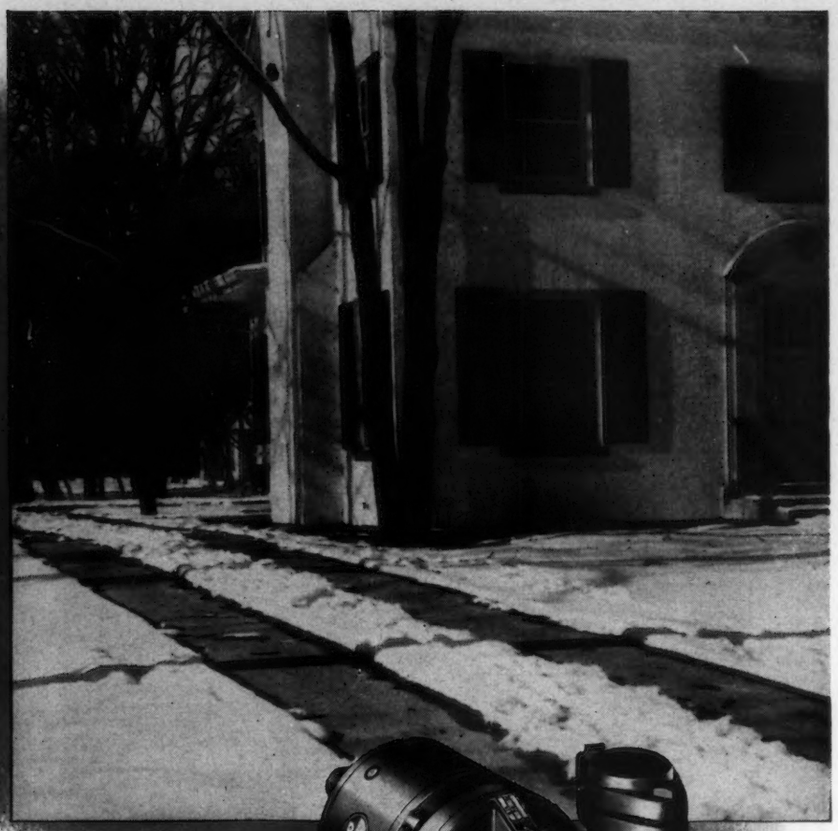
DEPT. 11-8, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

# SNOW MELTING

ANOTHER PLUS VALUE OF

## B&G Hydro-Flo Heating



Here's one more reason why B & G *Hydro-Flo* Heating is tops in modern heating. Hot boiler water can be circulated by a B & G Booster through pipe coils under the driveway and sidewalk, melting snow as fast as it falls. Another tiresome job eliminated!

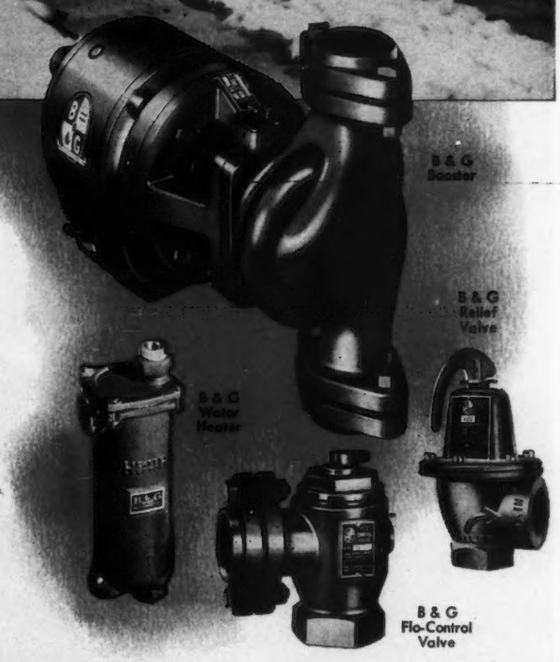
B & G *Hydro-Flo* Heating is known the country over for its outstanding advantages . . . *controlled radiant* warmth . . . fuel economy . . . supreme comfort in any weather! This forced hot water system permits a choice of baseboards, radiators, convectors or completely concealed radiant panels. Whatever your selection, you'll have the finest in automatically controlled heating.

The B & G *Hydro-Flo* System matches the heat supply to the weather—so exactly that from Fall to Spring, indoor temperature is held constantly at the comfort level. And besides, it provides a year-'round supply of hot water for kitchen, laundry and bath.



**NO JOB TOO BIG OR TOO SMALL**

Hundreds of thousands of B & G *Hydro-Flo* Systems are in operation today. You'll find them in low-cost homes, apartments, industrial and commercial buildings, delivering the same comfort regardless of the size of the building.




**B & G *HYDRO-FLO* HEATING EQUIPMENT**

The basic units of a B & G *Hydro-Flo* System are simple and dependable—an assurance of long years of trouble-free service. Any hot water boiler—new or old—can be equipped with B & G *Hydro-Flo* Products.

**BELL & GOSSETT** *Company*

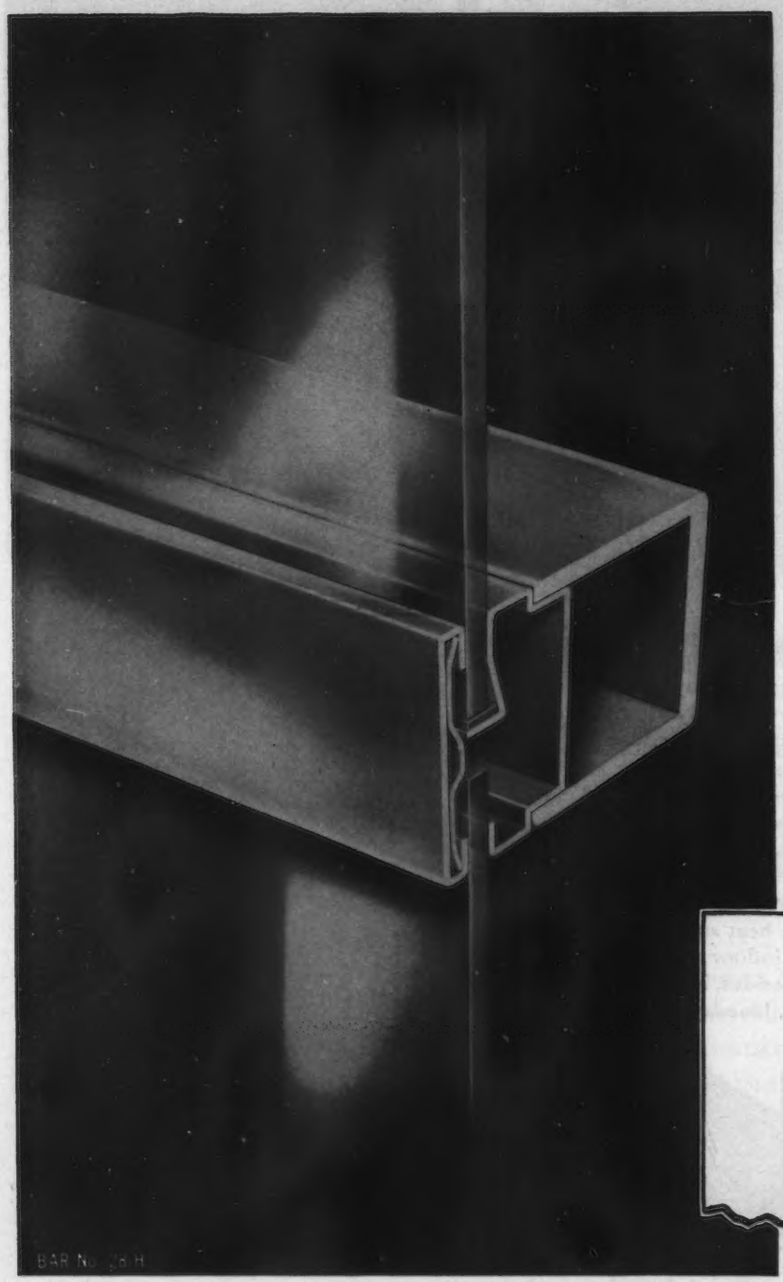
Dept. BU32, Morton Grove, Ill.

*Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Road, Toronto 13, Canada*

*Reg. U. S. Pat. Off

# *New Versatile Division Bar*

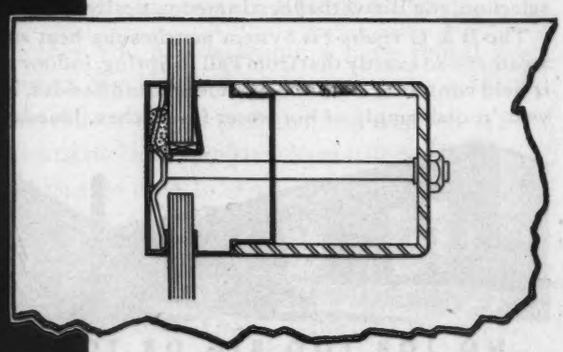
## IN PITTCO PREMIER STORE FRONT METAL



● This new Pittco Premier Division Bar (No. 28 H or V) will simplify design and construction on jobs where large areas of Plate Glass must be subdivided. Two features make it extremely practical. An interchangeable spring member permits this new bar to be used both horizontally and vertically. And skillful design has achieved unrivalled simplicity of structure and of installation. At intersections, a concealed fastening locks cross members together securely. Because of the bar's construction, mitering is unnecessary.

Division Bar No. 28 has a shallow profile and plain face, making it suitable for use in a wide variety of store front designs. It is extruded to give it maximum strength, yet it is not large and heavy. The extruded method of production assures a finish rich in tone and gloss.

The production of this versatile division bar is a result of Pittsburgh research . . . aimed to help solve architectural and building problems encountered in the field.



**PITTCO STORE FRONT METAL**

**PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS**

**PITTSBURGH PLATE GLASS COMPANY**



- ATTRACTIVE SHADOW LINE
- DOUBLE-APPLICATION
- OPTIONAL EXPOSURES

# Biggest news in residential building

The preference for pre-stained cedar shake walls has increased phenomenally during the past two years. Architects, builders and contractors all over the land are switching to this excellent wall material because it has the basic qualities that assure complete client approval:

QUALITY APPEARANCE is self-evident. The overwhelming approval of the textured beauty of pre-stained cedar shakes has made this the **most imitated** wall material in America.

VARIETY OF TREATMENT is exceptional. Exposures may be varied to conform with the design of each house; and color variations are virtually limitless.

DOLLAR VALUE, in original cost as well as upkeep expense, makes the wall of cedar shakes a sound investment.

YOUR CLIENTS WILL APPROVE...

# STAINED CEDAR SHAKES

STAINED SHINGLE & SHAKE ASSOCIATION · SEATTLE, WASH.

# Cleveland Municipal Stadium Refrigerated by Frigidaire!



When the Berlo Vending Company of Philadelphia took over the concessions of Cleveland's Municipal Stadium last spring, they were faced with a crisis.

The old refrigeration equipment was obsolete—couldn't serve a stadium of people—and baseball season was almost at hand!

Plenty of the right equipment had to be installed—and fast! So Frigidaire was called in to solve the problem.

### 30 Frigidaire Beverage Coolers and 21 Compressors Installed

Soon, an army of workmen had made alterations and erected 21 sectional walk-in coolers. Then, in four days, the Gardella Brothers Refrigeration Company, Frigidaire dealer in Cleveland, installed compressors and coils for the walk-ins, put in 30 beverage coolers, and had the complete system in operation—in time for the season "opener"!

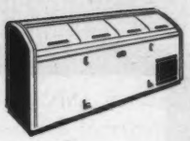
Since then, and throughout the baseball and football season, concession officials say they "always have ample supplies of cold drinks to fall back on in any emergency." Moreover, they point out that food preservation is more efficient, providing clean, healthful conditions as well as practical, economical operation.

### Food and Drink Cooled for an Army of Fans

This was amply demonstrated when 79,000 roaring fans watched a double header between the Indians and Yankees one day last spring. These fans consumed 100,000 hot dogs, 19,000 ice cream bars, and 85,000 bottles of beverages—all refrigerated by this Frigidaire equipment.

Donald Holt, operations manager, says "The installation in Cleveland may go a long way toward revolutionizing the refrigeration systems in other stadiums throughout the country."

**Frigidaire Beverage Coolers** assure cold drinks at less cost. Dry storage types available in sizes to fit your needs. All powered by the famous Meter-Miser—simplest refrigerating mechanism ever built.



**Frigidaire Compressors** provide trouble-free service at lowest cost. Regardless of the refrigerating capacity you require, you can assure yourself of dependable, uninterrupted, *automatic* service from Frigidaire.



## You can't match FRIGIDAIRE

**Water Coolers • Low-Temperature Cabinets • Compressors**
**Ice Makers • Self-Contained and Central System Air Conditioners**
**Beverage Coolers • Reach-In Refrigerators • Electric Dehumidifiers**
**Household Appliances**

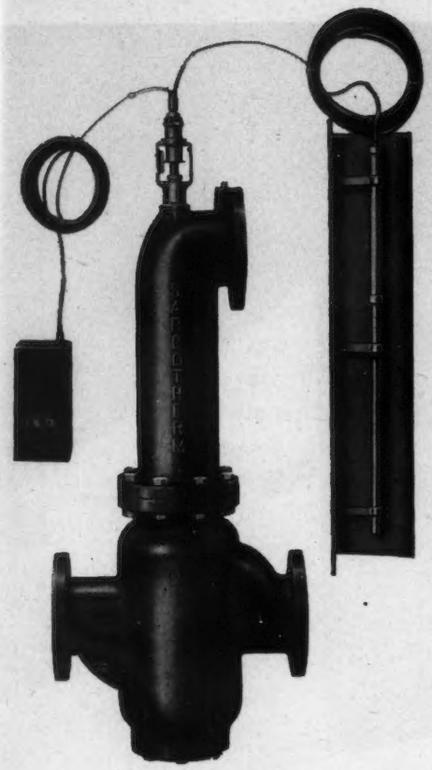
Whatever your refrigeration problem, we suggest you see your Frigidaire Dealer. Look for his name in the Yellow Pages of your phone book, under "Refrigeration Equipment." Or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Leaside 12, Ontario.

**Over 400 Frigidaire Commercial refrigeration and air conditioning products—most complete line in the industry**

# *It's Here!*

## THE IMPROVED MODULATING CONTROL for Hot Water and Radiant HEATING SYSTEMS . . . .

*a good product made better*



Sarcotherm engineers are constantly searching for a better product.

While utmost simplicity is still the dominant design principle, the new models now available show many important improvements and refinements.

*Double Seated Valves* are now used in the larger sizes, greatly increasing valve capacity and permitting smaller valves being used on a given size job. *Convenient manual adjustment* features are now provided in a variety of combinations. *Program control systems* are available to meet any specification.

*Easy Installation.* New body construction simplifies piping and allows for easy servicing.

Hundreds of successful installations testify to the efficiency of this simple system. Our Engineering Department will be glad to recommend a suitable control system for your particular job.



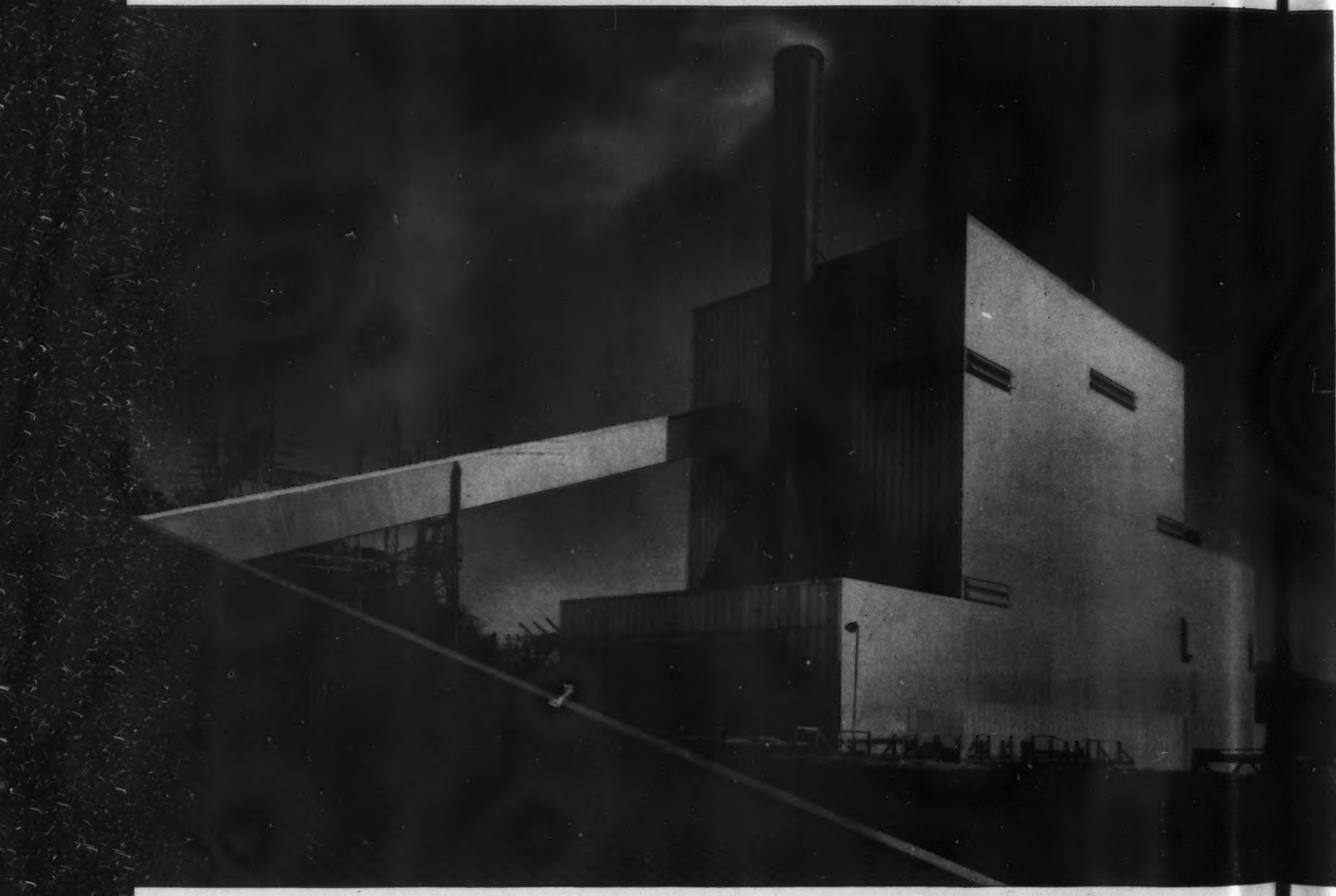
*Ask for new Bulletin ST-501 describing latest improvements.*

19

**Sarcotherm**

SARCOTHERM CONTROLS, INC. • Empire State Bldg. • NEW YORK 1, N. Y.

# ALUMINUM LOOKS GOOD



Riverton Station, Northern Virginia Power Company, Front Royal, Virginia. Sanderson and Porter, Engineers and Constructors; Chapman, Evans and Delehanty, Consulting Architects. Aluminum-faced wall panel fabricated and erected by H. H. Robertson Co.

Wall panels, surfaced with Alcoa Aluminum, have fluted steel backs and 1.5 inches of glass fiber insulation. Conveyors covered with Alcoa Industrial Building Sheet.

Big, metal wall panels went up fast, required no painting or caulking. Good appearance makes for better public relations in any community.



# TO TREASURERS, TOO

Behind the gleaming surface of this aluminum-clad power plant are shining facts to gladden the heart of a cost-conscious treasurer.

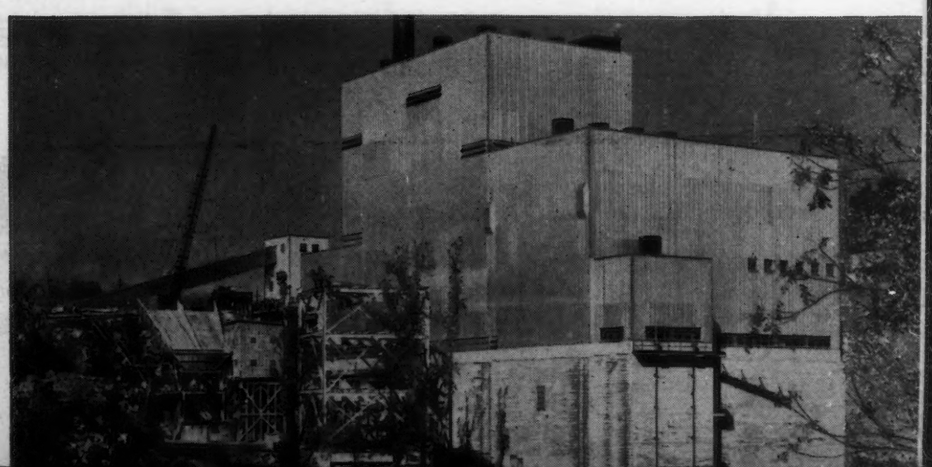
The owners estimate that building with big, easy-to-erect, aluminum-faced panels saved more than $50,000 over masonry wall construction. Big, 18-foot-high panels were erected quickly by five-man crews. Speed in construction means that plants start producing income sooner. This pleases not only treasurers, but presidents and directors, too. The many aluminum-faced plants now in operation have proved that the savings go on year after year. Aluminum surfaces need no painting, pointing or upkeep. Wall panels with glass fiber, or similar insulation, equal foot-thick masonry in insulating value. And they remain a thing of beauty for years to come, for aluminum can't rust-streak, rot or warp.

Aluminum building panels and Alcoa Industrial Building Sheet are available in standard and special types and sizes with complete engineering data. For information on these and other building applications of aluminum, call your nearby Alcoa Sales Office or write ALUMINUM COMPANY OF AMERICA, 1888J Gulf Bldg., Pittsburgh 19, Penna.

ALCOA

FIRST IN ALUMINUM





# *Easy!*

## So easy to install new Reflective Kimsul*—you actually save time, save labor!



**1** Required length of KIMSUL* blanket is cut from roll and stapled to top plate through fiber strip.



**2** Snug fitting, many-layer KIMSUL blanket is then expanded to full length of stud space.




**3** Staples through fiber strip attach end of KIMSUL blanket securely to floor plate. Stitched construction assures uniform coverage—prevents thick spots, heat-leaking thin spots.



**4** Flanges stapled to sides of framing hold blanket permanently in position and also provide air space. Part of flange folds over face of framing to complete vapor seal.

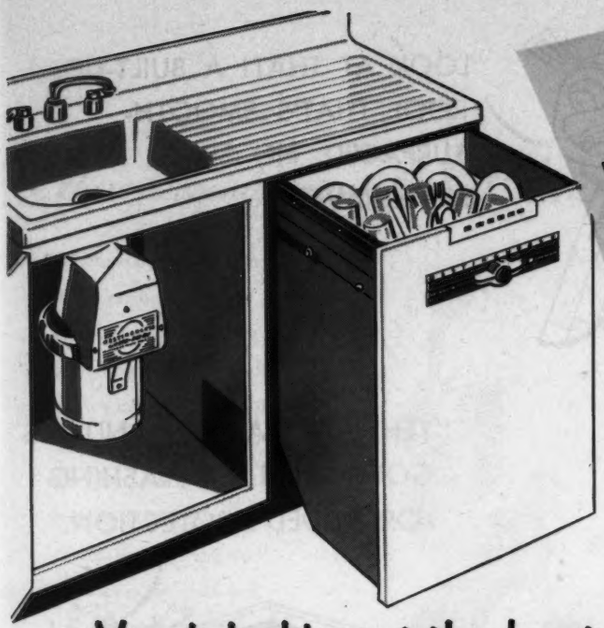
For complete information about new Reflective KIMSUL, see Sweet's Architectural and Builders' Catalogs, or write to Kimberly-Clark Corporation, Neenah, Wisconsin.

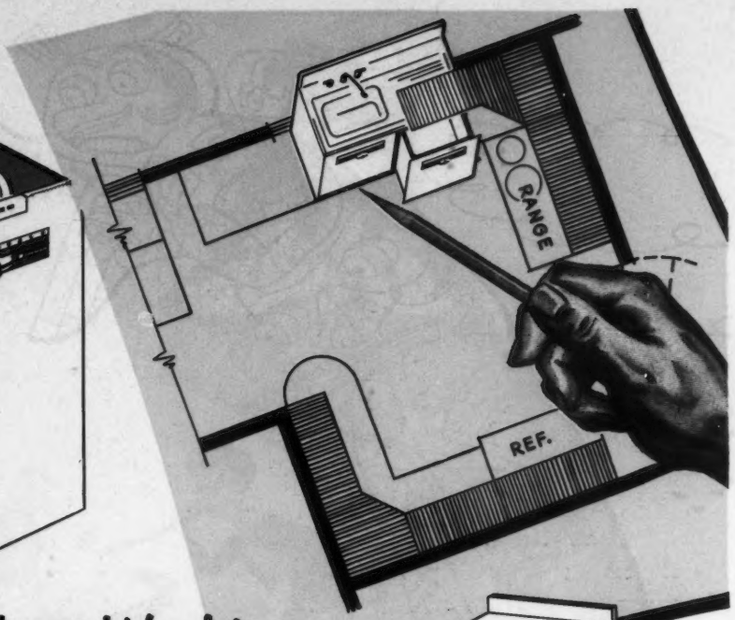
KIMSUL INSULATION
A PRODUCT OF Kimberly Clark RESEARCH

WITH REFLECTIVE VAPORSEAL

**Now 2 types of Kimsul Insulation—**
**Regular and Reflective**
(Red Roll) (Gray Roll)

*T. M. REG. U. S. PAT. OFF. & CAN.






# You're looking at the Last Word in Flexible, Low-Cost Installation

## Westinghouse Dishwasher Waste-Away® Combination Offers New Opportunities For Better Kitchen Plans

Here's a 48″ electric sink that should make a hit with every architect and builder for these very practical reasons:

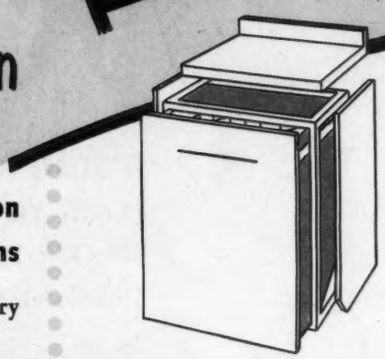
1. Only ONE drain connection is required for BOTH the Dishwasher and Waste-Away Garbage Disposer, and all plumbing is simplified to save HOURS of installation time.

2. Being of the FRONT-OPENING type, shelves or cupboards can be placed ABOVE the dishwasher at standard height. Its top is an unbroken work surface. And the user still has the convenience of top loading.

3. For custom work surface kitchens, the under-counter model dishwasher and the matching sink cabinet permit use of any type counter and drainboard material, without breaks. Waste-Away fits standard sink bowls, connections are unchanged.

This Westinghouse combination has been HOME-PROVED in all types of installations. It is truly the last word in serviceability. Investigate its possibilities now. Tear out the attached coupon and mail today for complete information.

**WESTINGHOUSE ELECTRIC CORPORATION**
**ELECTRIC APPLIANCE DIVISION • MANSFIELD, OHIO**



Both Electric Sink and 24″ Cabinet Model use Under-Counter Dishwasher as a basic unit. Note removable top and side panels.

Westinghouse Electric Corporation
Appliance Division
Mansfield, Ohio

Gentlemen:

Please send me complete specifications and details about your Dishwashers, Waste-Aways and Electric Sink Combinations.

Name_____

Firm_____

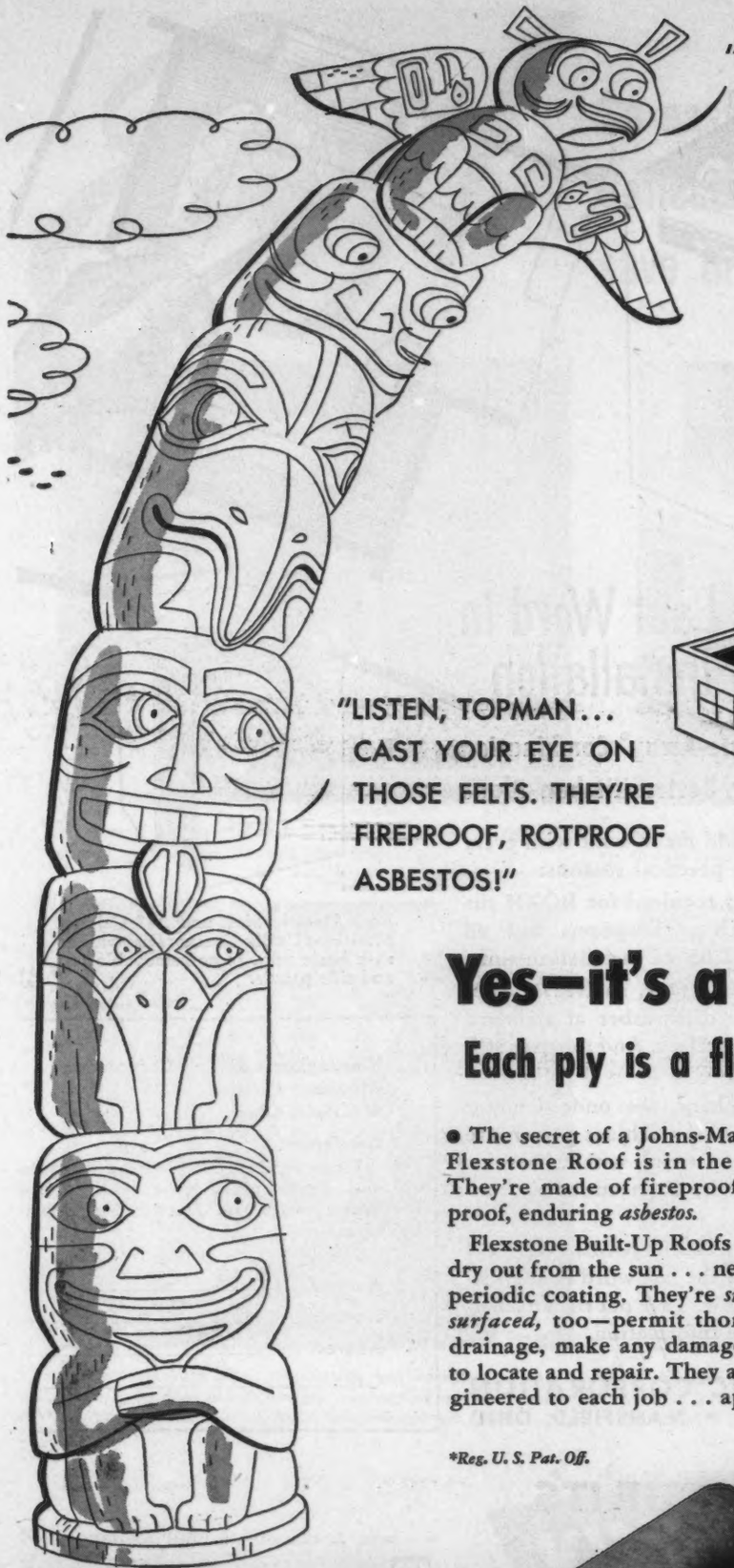
Address_____

City_____

11AR

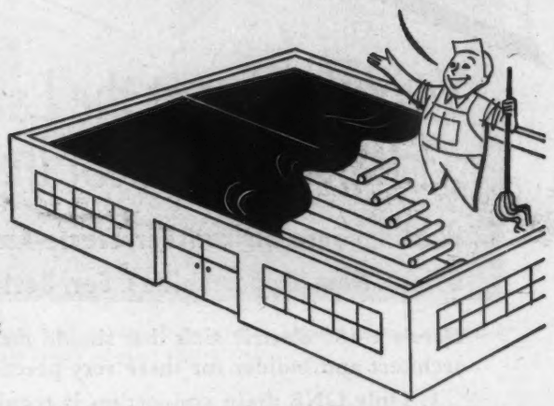
**YOU CAN BE SURE..IF IT'S Westinghouse**





"LOOK AT THAT! A BUILT-UP ROOF THAT'S SMOOTH-SURFACED. NO SLAG! NO GRAVEL!"

"YEH, YOU SAID IT! AND IT'S GOT ASBESTILE* FLASHING FOR ADDED PROTECTION."



"LISTEN, TOPMAN... CAST YOUR EYE ON THOSE FELTS. THEY'RE FIREPROOF, ROTPROOF ASBESTOS!"

# Yes—it's a Flexstone* Roof

## Each ply is a flexible covering of stone!

● The secret of a Johns-Manville Flexstone Roof is in the *felts.* They're made of fireproof, rotproof, enduring *asbestos.*

Flexstone Built-Up Roofs won't dry out from the sun . . . need no periodic coating. They're *smooth-surfaced,* too—permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job . . . applied only by *J-M Approved Roofers.* J-M Asbestos felts are perforated to make application easier, give a smoother job, conform better to roof decks.

Send for brochure BU-51A. Contains complete specifications for Flexstone Roofs and Asbestile* Flashing. Johns-Manville, Box 290, New York 16, New York.

JOHNS-MANVILLE JM PRODUCTS

*Reg. U. S. Pat. Off.

Made of ASBESTOS

# Johns-Manville FLEXSTONE* Built-Up Roofs

CORRUGATED TRANSITE* ● ACOUSTICAL CEILINGS DECORATIVE FLOORS ● *TRANSITE WALLS ● ETC.

*... those heavenly carpets by* LEES

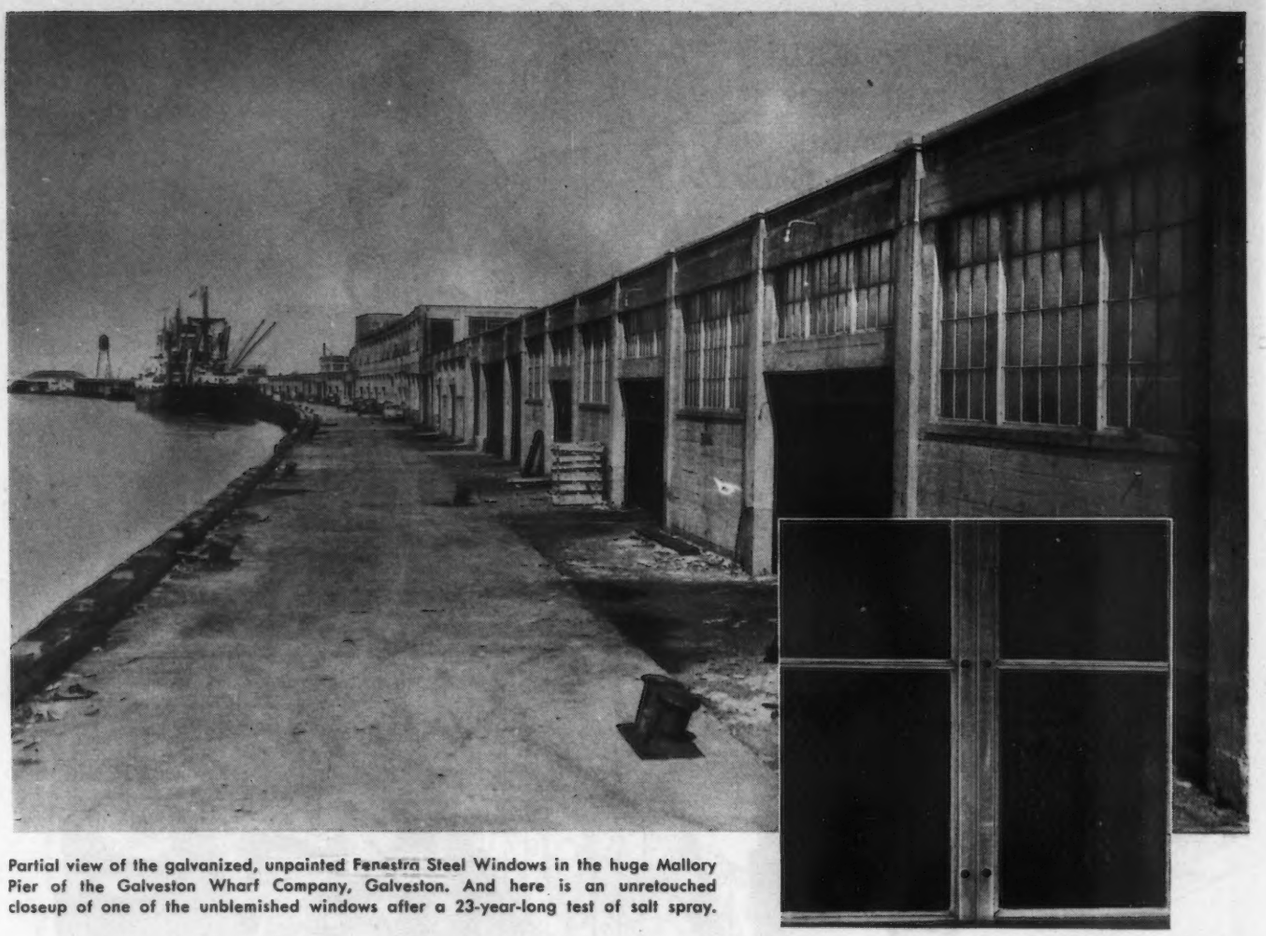
Whenever you feel rich thick hard-twist carpet beneath your feet—like the Hollyberry Red Bramble shown here—you whisper "Ah—*this* is a Lees!" Because Lees is famous for rugs loomed from yarns of 100% imported wool. Now Lees presents two exciting new carpets—Predecessor and Successor—woven from a miraculous *man*-made fiber—Estron. They're lovely, long wearing, moderately priced, safe from moths. Another quality triumph by Lees!



Lees CARPETS



*JAMES LEES AND SONS COMPANY, BRIDGEPORT, PA., MAKERS OF LEES CARPETS AND RUGS, MINERVA AND COLUMBIA HAND-KNITTING YARNS*



Partial view of the galvanized, unpainted Fenestra Steel Windows in the huge Mallory Pier of the Galveston Wharf Company, Galveston. And here is an unretouched closeup of one of the unblemished windows after a 23-year-long test of salt spray.

# 23 Years of Salt Spray and Not a Sign of Rust!

23 years right on top of the salt water and these galvanized, unpainted Fenestra* Steel Windows in the Galveston Wharf Company's Mallory Pier, Galveston, Texas,

. . . *look* like new (remember, they were made in 1927)

. . . *work* like new (they still open and close without a hitch)

They didn't rust a bit. And now Fenestra Engineers have developed a galvanizing system that does a better galvanizing job all around!

Control is the secret. Control by Fenestra's Craftsmen in Fenestra's own special galvanizing plant.

**HERE'S HOW IT GOES:**

**Specially Planned Fabrication.** To insure proper galvanizing, fabrication and assembly of window parts are especially engineered.

**Hot, Deep-Dip Galvanizing.** To give lasting protection, the windows are cleaned, rinsed, fluxed and then *completely* immersed in a bath of molten zinc.

**Bonderizing.** To give them a perfect finish, the windows are Bonderized and rinsed. (This also provides an excellent base for a decorative paint-finish, when desired.)

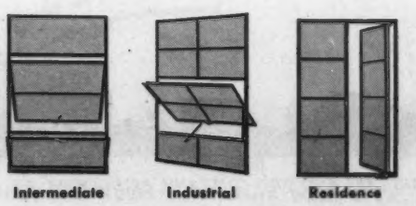
For further information, call your Fenestra Representative (he's listed in the yellow pages of your phone book).

Or write to Detroit Steel Products Company, Dept. AR-11, 2252 East Grand Boulevard, Detroit 11, Michigan. *®

**Steel-Strong Windows made to STAY new**

*Fenestra*

**HOT-DIP GALVANIZED STEEL WINDOWS**



Intermediate Industrial Residence



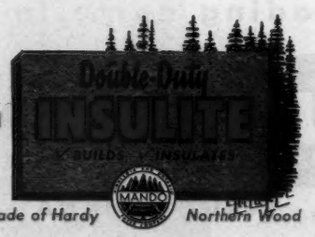
# INSULITE*

## *Complements any Modern Interior*

INSULITE has given the above interior added beauty and comfort. See how the Tileboard ceiling enhances the over-all decorative scheme. And its surface and lustrous color insures the high light reflection which you desire in a ceiling material. But INSULITE adds more than beauty and high light reflection to this contemporary setting. INSULITE Tileboard insulates as it decorates—cuts heat passage through ceilings as much as 30%. Another advantage of this type of ceiling construction is its exceptionally low cost.

INSULITE offers a new and complete line of insulating interior finishes in tileboard, plank and large interior board sizes. Variable in adaption to give the architect ample range of imagination in design and treatment. Words and pictures can't do justice to their beautiful new colors and surface textures. They must be seen to be appreciated. May we show them to you? Just drop a card to INSULITE, Minneapolis 2, Minnesota.

**INSULITE INTERIOR FINISHES:** Durolite Plank and Interior Board . . . Lusterlite Tileboard and Interior Board . . . Wevelite and Smoothlite Interior Boards . . . Acoustilite and Fiberlite Acoustical Tileboards.

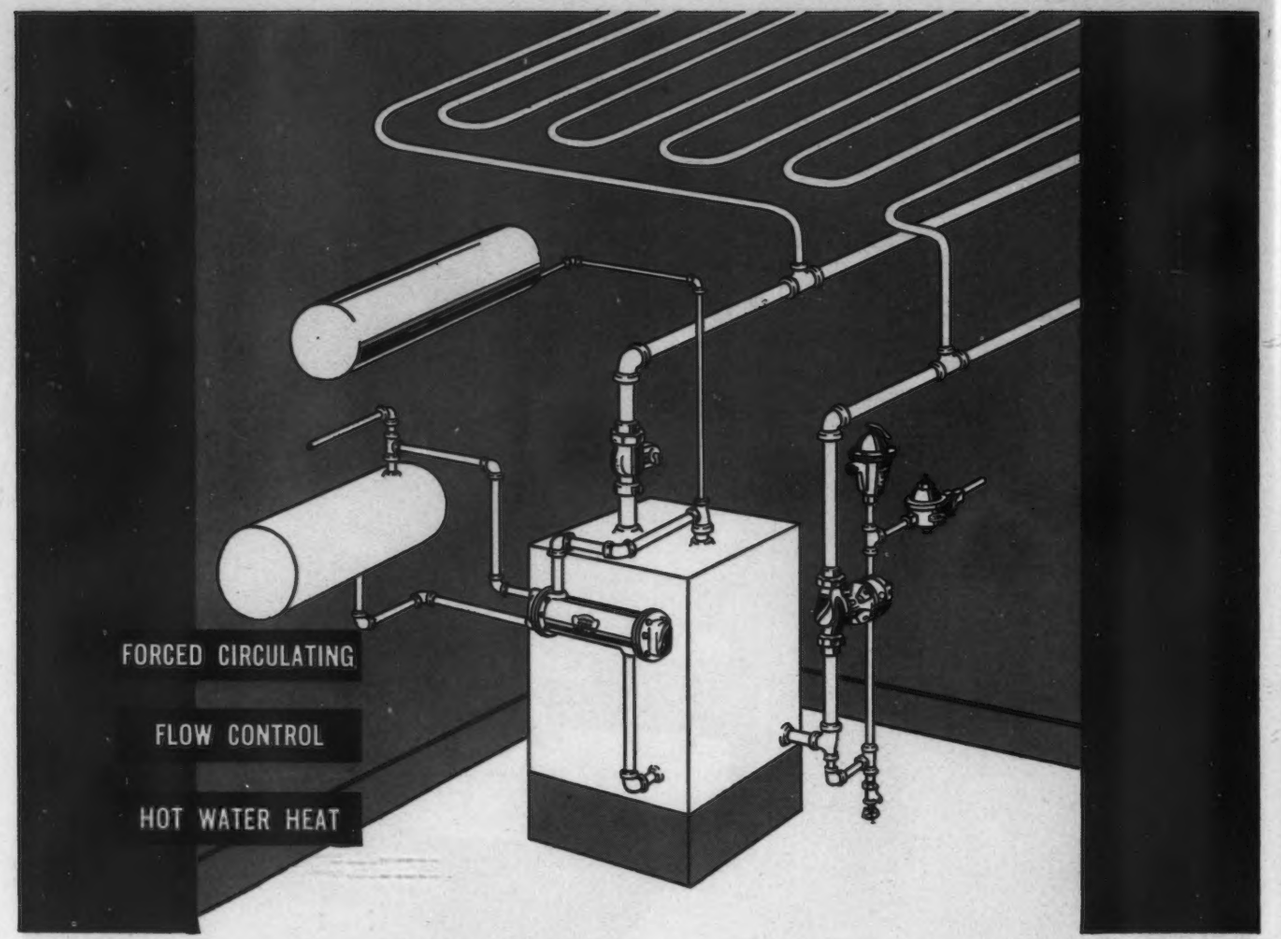



**INSULITE DIVISION** **MINNESOTA AND ONTARIO PAPER COMPANY**
**MINNEAPOLIS 2, MINNESOTA**

10-50

Refer to Sweet's File, Architectural Section 10a/8

*Reg. T. M. U. S. Pat. Off.




# Thrush Radiant Heat

## quiet, efficient low cost forced hot water circulation



Flow Control Valve
Vertical or Angle Types,
With or Without Air Tube



No. 201
Radiant Heat Control



Thrush Horizontal Water Circulator

**GIVE YOUR customers the finest, most efficent Radiant Heat . . . Hot Water with Forced Circulating Thrush Flow Control System. It provides uniform heating without continuous Circulator operation. Maintains constant flow of radiant heat under all weather conditions. Summer-winter domestic hot water for kitchen, laundry and bath is provided automatically. If you are not familiar with Thrush Flow Control System and heating specialties, see our catalog in Sweet's or write Department J-11.**

**leading name in**

**HOT WATER CONTROLS**

H. A.
THRUSH
AND COMPANY

**PERU, INDIANA**




***MAKE THIS TEST YOURSELF:*** Reproduce a Turquoise pencil tracing by any method you choose. Note that every detail comes out sharp. *Electronic graphite (used exclusively in Turquoise) is reduced in Eagle's patented attrition mill to particle sizes of 1/25,000" to deposit knife-edge lines of maximum opacity.

***STRONGER POINTS, SMOOTHER LEAD:*** You'll find "Chemi-Sealed" Turquoise points stronger because of Eagle's patented super-bonding process . . . the lead smoother because impregnation with rare waxes gives every particle of the lead a film of lubricant to glide on.

***FOR FREE SAMPLE,*** just write us . . . naming this magazine, your dealer and the grade you desire.

*EAGLE

*"CHEMI-SEALED" SUPER BONDED

# *TURQUOISE

## DRAWING PENCILS AND LEADS

EAGLE PENCIL COMPANY • NEW YORK • LONDON • TORONTO

*Reg. U. S. Pat. Off.

# 230 days saved
## by using reinforced concrete



IN NEW

*Alabama Livestock Coliseum*

ARCHITECT: Sherlock, Smith & Adams, Inc. ENGINEERS for the Roof-Structure, Ammann & Whitney. BUILDER: J. A. Jones Construction Co.

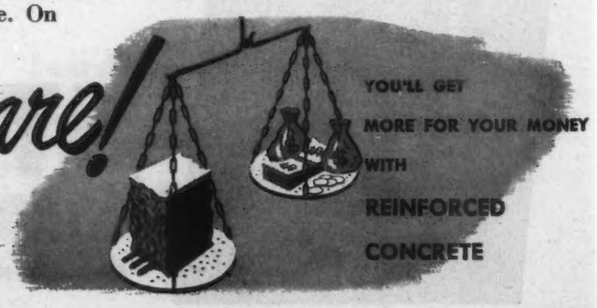
***Construction time reduced from 730 to 500 days***

When this striking 1.5-million dollar Livestock Coliseum was being planned for Montgomery, Ala., the architects—Sherlock, Smith & Adams, Inc.—executed *two alternate designs* for the 286-ft clear span, thin-shell barrel roof and ceiling ribs. One design used structural steel, the other reinforced concrete. Bidding showed that concrete cost slightly less than steel. But it was *construction time* that made reinforced concrete the overwhelming choice. The estimate for concrete was 500 days—230 days less than structural steel!

Reinforced concrete not only requires less time to erect—it has many other advantages. It provides a rugged, durable monolith that is inherently firesafe, as well as highly resistant to wind, shock, and quakes. It costs less. And, reinforcing bars, cement, and aggregate are readily available. On your next building, it will pay you to consider reinforced concrete.

**CONCRETE REINFORCING STEEL INSTITUTE**
**38 S. Dearborn Street**
**Chicago 3, Illinois**

*Compare!*



YOU CAN BE SURE.. IF IT'S
Westinghouse



# "Low Impedance BUS DUCT for the Long Run"

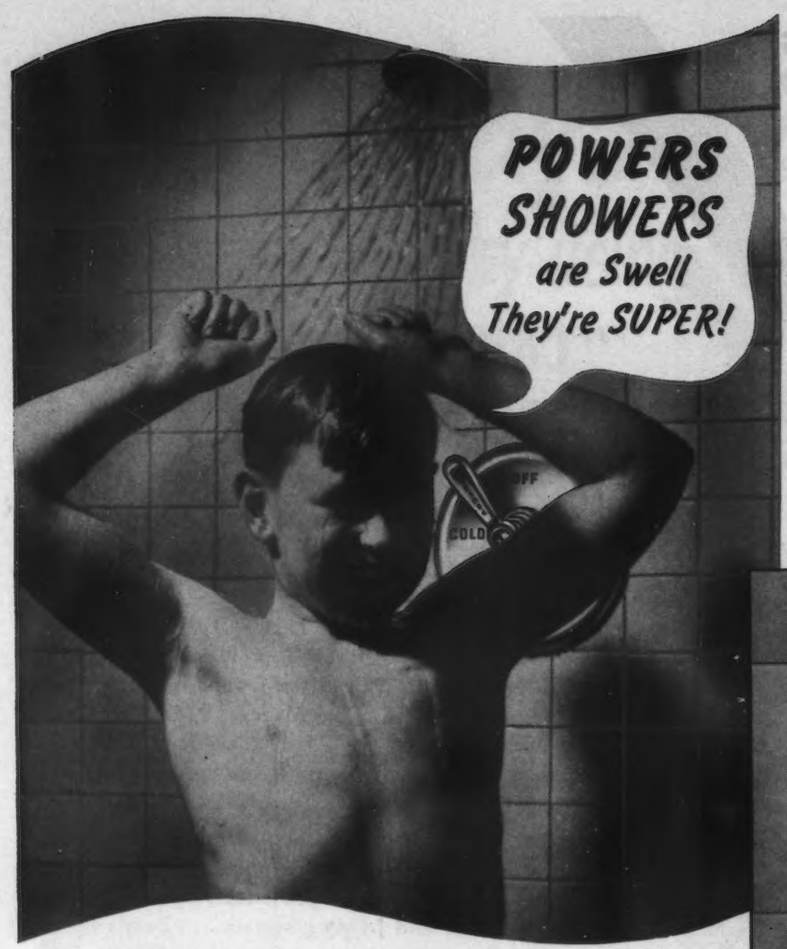
"We've found Westinghouse low impedance bus duct to be ideal for long transmission runs in a plant," say Mr. R.W. Holicky, Chief Engineer, and Mr. W. F. Nock, Field Supervisor, of the Doan Electric Company in Cleveland. "It's easy to handle and no trouble at all to hook up."

Let bus duct answer *your* secondary power distribution problems—whether you're building or expanding. Low impedance bus duct provides required voltage right out to the end of your system . . . keeps lights, motors, and other equipment functioning at top efficiency. In addition, it packs greater carrying capacity into a smaller space than either conduit or wire. And bus duct means reduced maintenance.

Completely pre-fabricated sections can be installed up out of the way of plant traffic—quickly and easily. What's more, the sections can be disassembled immediately and rushed to new locations with no wiring mess to unravel.

Ask your Westinghouse representative for the facts on dollar and space-saving bus duct. Descriptive bulletin B-4271 contains further information. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-30042

Westinghouse
BUS DUCT





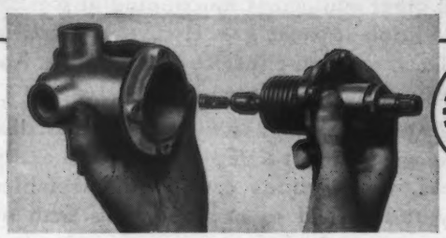


OTHER TYPES OF POWERS SHOWER CONTROLS




Zone Showers for Swimming Pool



ONLY ONE MOVING PART — Powerful thermostatic motor assembly is easily accessible from the front. *Simple* and *durable* construction insures long life and minimum of maintenance.

## SAFETY TESTS PROVE

**POWERS Type H THERMOSTATIC WATER MIXERS will out-perform all other thermostatic or pressure actuated mixers**

***Only ONE shower accident*** may cost many times the price of a Powers mixer. Why settle for any thing less than the SAFEST SHOWER MIXER MADE?

# POWERS

**Type H**

## *Thermostatic* SHOWER MIXERS

***are SAFE against scalding caused by***

## 1 PRESSURE *or* 2 TEMPERATURE

***fluctuations in water supply lines***

**Safer**—because of their quick acting response to any change in temperature setting, pressure or temperature variations in water supply lines. Users report control within ½°F. **Greater Comfort**—shower temperature remains constant wherever set. No jumpy temperatures. **More Economical**—POWERS thermostatic mixers promptly deliver showers at the right temperature...no waste of time, hot or cold water.

For new installations or when modernizing obsolete showers . . . play safe, use Powers type H thermostatic shower mixers.

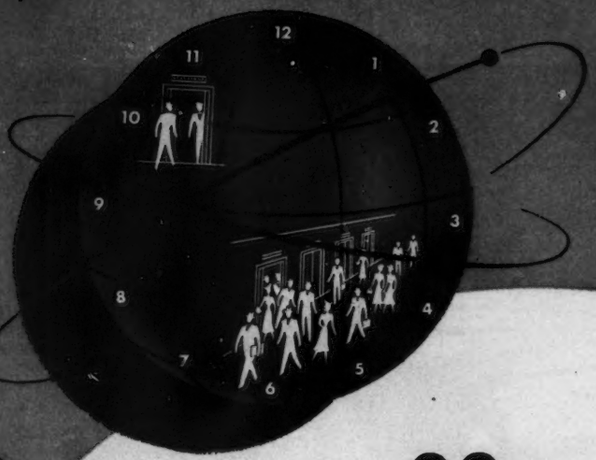
**THE POWERS REGULATOR CO.**

**OFFICES IN OVER 50 CITIES • SEE YOUR PHONE BOOK**

***Over 55 Years of Water Temperature Control***

CHICAGO 14, ILL., 2752 Greenview Ave. • NEW YORK 17, N. Y., 231 E. 46th St. • LOS ANGELES 5, CAL., 1808 W. Eighth St. • TORONTO, ONT., 195 Spadina Ave. • MEXICO, D. F., Edificio "La National" 601

HBY5



# 60 nations to be served by OTIS AUTOTRONIC ELEVATORS

—and equally interesting, is the fact that all 60 nations are represented among the 16,700 employees of the international Otis organization.

• • •

"We assume full responsibility." When Otis turns over the keys to a new installation, management and architects alike are confident of its successful operation. For Otis is the only elevator manufacturer that designs and builds everything—from pit to penthouse!

Likewise, the vertical transportation system in the Secretariat Building of the United Nations is our responsibility. The unusually complex working day of the Secretary-General's administrative staff of 3,200 people presented an unusual combination of vertical traffic patterns. But we knew from long years of planning that 18 Autotronic elevators, coordinated with 8 Otis escalators would provide fast, dramatic —and unexcelled service! Autotronic elevators will serve 39 floors and 3 basements. Escalators will run from the 1st basement to the 4th floor.

We'll be glad to assume full responsibility—anywhere—for planning, designing, manufacturing and installing complete vertical transportation systems. In NEW or MODERNIZED office buildings, hospitals, banks, department stores and industrial plants. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.



Secretariat Building **UNITED NATIONS** New York City

Otis

AUTOTRONIC
Traffic-Timed
ELEVATORING



# Certainly it's Certain-teed

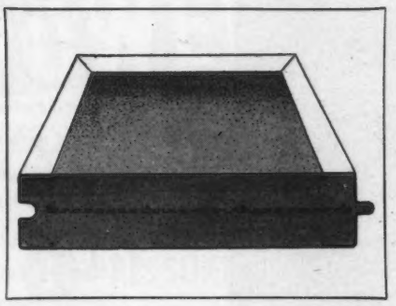
**It's CERTAIN-TEED's Gypsteel Plank,** incombustible gypsum slab — reinforced with galvanized steel wire mesh and locked in a welded steel frame.

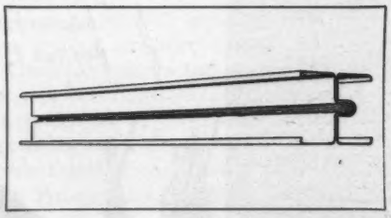
Tongued and grooved, Gypsteel Plank handles like lumber. It is easily and quickly installed, saving valuable time and labor costs. It is light (only 12 lb. per sq. ft.) and strong (safe load, 75 lb. per sq. ft.; safety factor of 4).

The insulation value of Gypsteel Plank is high—2″ of it equals 10″ of cement. And it is permanent—fire-resistant, rot-, vermin- and termite-proof.

Gypsteel Plank makes an attractive ceiling, one that is easily painted. The Plank does not collect dust and dirt as do ceilings of ribbed or flanged materials.

Size of Gypsteel Plank, 2″ x 15″ x 10′.





◀ Gypsteel is tough as nails! 16 g. galvanized steel wire reinforces the highly compressed gypsum slab. Its frame is electrically welded steel, .032″ thick.

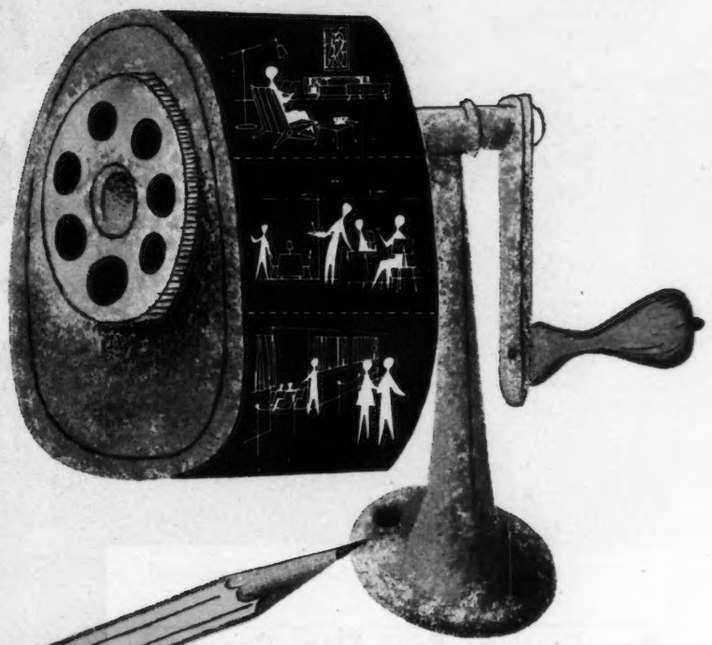
• • •

◀ The tongued and grooved Gypsteel frames form a sinewy steel I-beam of calculable strength and flexibility. Joints can be safely broken between supports.

**Certain-teed**
REG. U.S. PAT. OFF.
**PRODUCTS CORPORATION**
*ARDMORE, PENNSYLVANIA*

**ASPHALT ROOFING • SHINGLES • SIDINGS**
**GYPSUM PLASTER • LATH • WALLBOARD • ROOF DECKS**
**ACOUSTICAL TILE • INSULATION • FIBERBOARD**





**Business is on the carpet** **and carpet is our business**

A carpet specialist can help you in many ways. He can help you select the weave your client needs, for luxury and durability.

He can show you scores of colors and patterns, to meet your own decorating specifications. He can help you effect economies, through expert installation. Your local Alexander Smith-Masland contractor is a carpet specialist. Consult him.

Let him save your time, and your client's money.

**Alexander Smith**
**and**
**C. H. Masland**

CONTRACT CARPETS

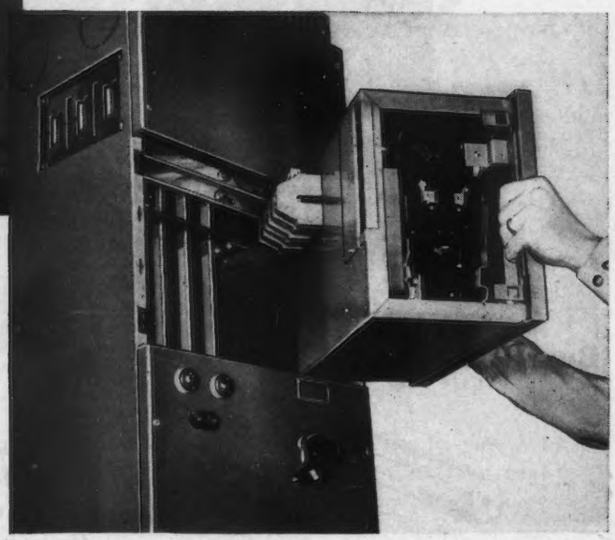
*295 Fifth Avenue, New York 16, New York*



# Announcing

# Centr-A-Power

**. . . custom-built . . . pre-engineered**



## New Features Save Floor Space, Speed Up Wiring, Facilitate Operation

**LESS FLOOR SPACE NEEDED**

Compact trough design allows more troughs to be used in a given area of floor space.

**LOTS OF ROOM FOR WIRING**

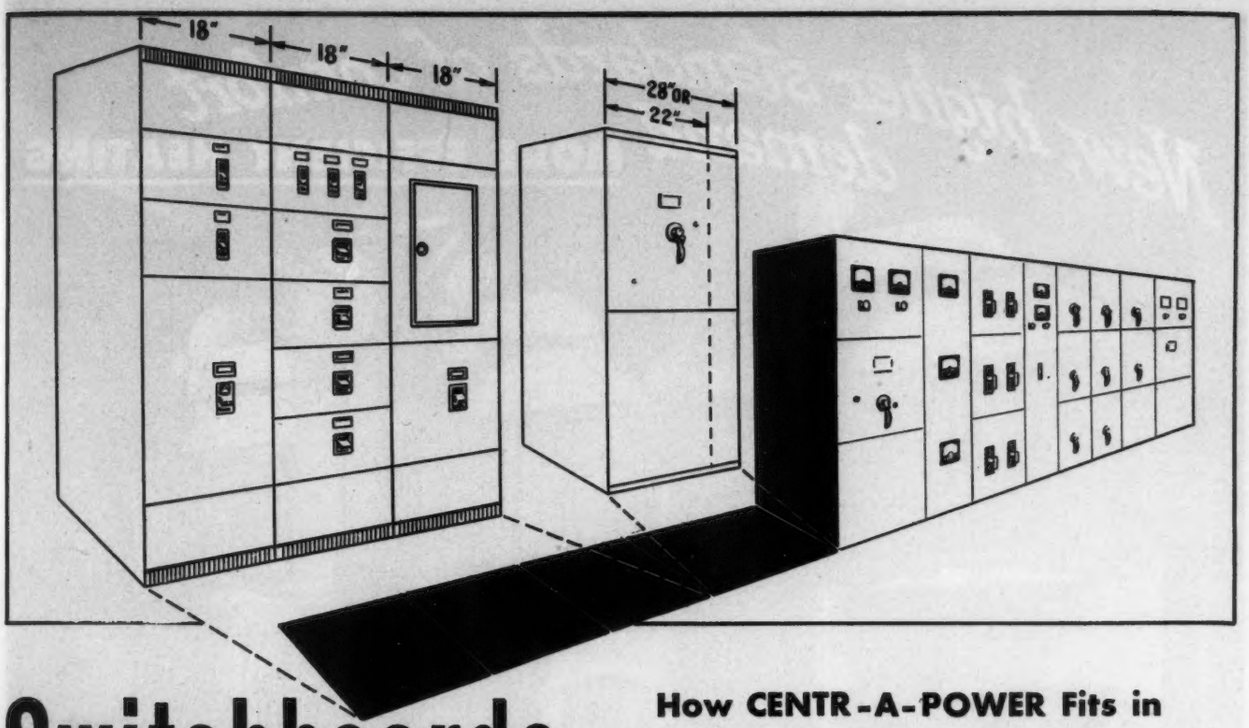
Generous (4 x 8 in.) wiring gutter makes wiring easier —can be accomplished with units in the trough—and allows use of over-size cable on long runs, keeping voltage drop low.

**ACCESSIBLE FROM FRONT**

CENTR-A-POWER Switchboards are completely accessible from the front, permitting aisle, back-to-back, "L" and "U" installations, further saving floor space.



TRUMBULL'S TRAINLOAD OF NEW PRODUCTS




# Switchboards

## . . . at money-saving prices

To save you money on installation time and maintenance costs, Trumbull has designed a new type of switchboard for complete low voltage (600 V and under) switching requirements. Because of pre-engineering and standardization, you can now have the highest quality construction at the lowest possible cost. Here are some of the features:

Pre-fabricated, rigid steel troughs can be placed in any arrangement to provide a completely dead-front, totally-enclosed switchboard. Wiring gutter design is such that load wiring is isolated from incoming load bus. Compact switch or breaker units, called CENTR-A-PLUGS, are easily mounted or removed. A quick-clip attachment saves time in installation, inspection and maintenance. Self-aligning latches replace bolts and nuts. Positive connection to bus bars is assured by use of spring-loaded, reinforced stabs. Each CENTR-A-POWER unit self-contained and electrically isolated from adjacent units.

## How CENTR-A-POWER Fits in with Your Present Rigid Type Switchboard Equipment

CENTR-A-POWER is made from three standard troughs, all 90 in. high. At left is unit type CENTR-A-POWER with 18 in. trough; it handles fusible switches through 200 amp. and circuit breakers through 600 amp. Two standard section troughs are indicated in the center. Type A is 22 in. wide, handles 400 and 600 amp. fusible switches. Type B is 28 in. wide, handles fusible switches through 1200 amp. and circuit breakers through 1600 amp.

Unit-Type Troughs (18 in.) are furnished assembled or unassembled. Large standard sections are furnished assembled only.

**ASK ABOUT TRUMBULL CENTR-A-POWER CONTROL CENTERS**

*which are of similar construction and line up mechanically and electrically with CENTR-A-POWER Switchboards.*

**New Free Bulletin**—Address The Trumbull Electric Manufacturing Company, Plainville, Conn. Ask for Bulletin TEB-3.

**TRUMBULL (T) ELECTRIC**



TRUMBULL'S TRAINLOAD OF NEW PRODUCTS

*New, higher standards of comfort demand* **MORE EFFICIENT HEATING**




# KEWANEE STEEL BOILERS

*in McKeesport*

**IT'S KEWANEE**

Technical High School
3—Kewanee—Type "C"
George Washington School
2—Kewanee—Type "C"
St. Peter's High School
2—Kewanee—5000's
Swift & Co. Warehouse
1—Kewanee—Type "C"
Vienna Baking Co.
1—Kewanee—Type "C"
Penn-McKee Hotel
1—Kewanee "K"

● To keep pace with modern ideas in planning and new, better standards of comfort which demand higher efficiency from heating systems, an ever increasing proportion of America's schools are using Kewanee Boilers.

The McKeesport Vocational High School, McKeesport, Penna., an outstanding example of today's modern schools, is equipped with 3 Kewanee Type "C" Boilers for stoker firing, with a total steam capacity of 22,000,000 Btu hourly.



**McKeesport Vocational High School**
**McKeesport, Penna.**
C. R. Moffit, McKeesport, Architect
F. J. Firsching, Pittsburgh, Engineer
The Withers Co., New Castle, Htg. Engineers

**KEWANEE BOILER CORPORATION**
BOILERMAKERS 80 YEARS KEWANEE, ILLINOIS
Branches in 60 Cities—Eastern District Office: 40 West 40th Street, New York City 18
Division of American Radiator & Standard Sanitary Corporation

*Serving home and industry*
AMERICAN STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

# New! 200 M.A.

## SOLA "sequenstart" FLUORESCENT BALLASTS

for two 96-T-8 lamps
and
two 72-T-8 or 64-T-6 lamps




**SMALLER:** The famous SOLA Sequenstart design greatly reduces bulk and weight. Decreases fixture weight, cuts shipping costs and installation expense.

**COOLER:** Maximum heat rise, 35° C. or less (thermo-couple measurement). SOLA Sequenstarts are the only ballasts with ventilated capacitor compartments. Cooler operation reduces air conditioning load and prolongs ballast life.

**MORE VALUE:** All SOLA Ballasts are guaranteed for one year. In addition to the significant saving on *original* cost, these extra values save many dollars on *operating* costs: less watts loss . . . more lumens/watt . . . lumen output varying less than ±2.5% regardless of line voltage fluctuations of ±15%.

**COMPLETE RANGE:** Four brand new ballasts, including two new Sequenstart Ballasts, have been added to the SOLA line. These new Sequenstarts bring the advantages of the SOLA Sequenstart principle to any installation.

Made under one or more of the following patent Nos. 2,143,745; 2,212,198; 2,346,621; & Patents Pending.

For full data on the SOLA "Sequenstart" Ballasts write to Department T.

**SOLA** "sequenstart" *Constant Wattage* **BALLASTS**

ENGINEERING 20 YEARS LEADERSHIP

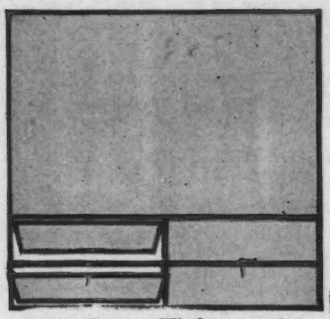
Transformers for Constant Voltage • Fluorescent Lighting • Cold Cathode Lighting • Airport Lighting • Series Lighting • Luminous Tube Signs • Oil Burner Ignition • X-Ray • Power • Controls • Signal Systems • etc. • SOLA ELECTRIC COMPANY, 4633 W. 16th Street, Chicago 50, Illinois

TRUSCON

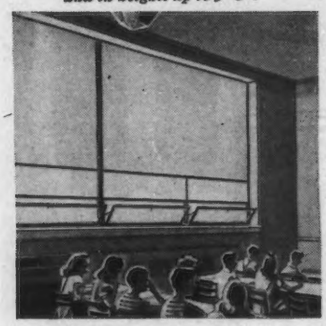
*Intermediate*

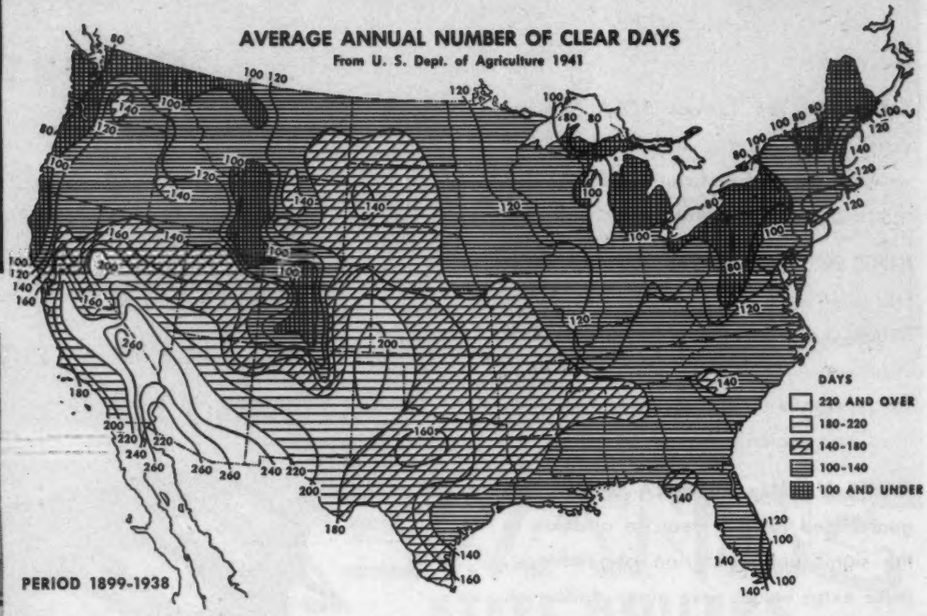
CLASSROOM WINDOWS

## unusual features...



*Truscon Classroom Windows are custom built in widths up to 10'-0" maximum and in heights up to 9'-0".*





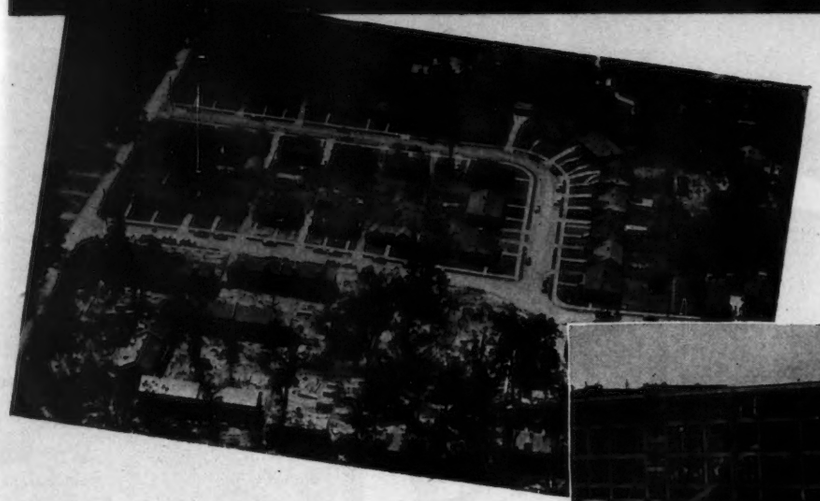

# for *efficient* classroom lighting

This U. S. Department of Agriculture map indicates that more than 90% of America has an average of 180 or less clear days in each year. A large percentage of these days will be during class-free summer and week-end periods. • In selecting a type of daylight opening for classrooms, it is imperative to use one that transmits the maximum amount of light . . . while permitting controlled ventilation in either fair or inclement weather. • Truscon Intermediate Classroom Windows provide these requirements, and permit selection of glass in upper fixed panel to meet exactly the varying needs of geographical location, climatic conditions, and degree of window exposure to direct solar rays. Write for free literature giving complete details.



**FREE Book on Truscon Steel Windows. Write for it. The Truscon Steel Company Manufactures a Complete Line of Steel Windows and Mechanical Operators . . . Steel Joists . . . Metal Lath . . . Steeldeck Roofs . . . Reinforcing Steel . . . Industrial Steel Doors . . . Coal Chute Doors . . . Steel Lintels . . . Concrete Reinforcing Bars . . . Welded Steel Fabric.**

**TRUSCON** STEEL COMPANY
Subsidiary of Republic Steel Corporation
YOUNGSTOWN 1, OHIO
Warehouses and sales offices in principal cities



## . . . In Memphis, Tennessee

**100** Units in Georgian Woods apartments. Building Contractor: Geo. Harsh, Jr., Pres. of Owner-Builder Corp. Plumbing Contractor: R. E. Shook Plumbing Service. Architect: Faires & Sanford, Architects; Chas. Williams, Asso. Distributor: Gordon Hollingsworth Company.



## . . . In Boston, Massachusetts

**648** Veterans' Housing Units. Building Contractor: C. J. Maney, Inc. Plumbing Contractor: Crane Plumbing & Heating Company. Architect: Saul E. Moffie. Distributor: Samuel Hurwitz Company.

**Richmond plumbing knows no boundaries—** when it comes to meeting fine housing requirements. From North to South . . . from East to West . . . more and more . . . leading builders, contractors and architects are consistently recommending Richmond.

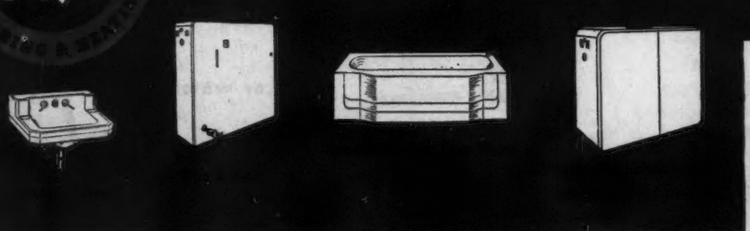
That speaks well for Richmond quality, and for Richmond economy, too. For over the years, Richmond plumbing fixtures have given lasting satisfaction.

Richmond offers you a wide variety of top-quality plumbing fixtures in "whiter-white," or choice of four pastel colors. You can order for a custom-built home, a large-scale project or a modernization job and always be confident of complete and lasting customer satisfaction. Whatever the plumbing requirement, wherever the building location, you know it's right with Richmond.

# RICHMOND

RICHMOND RADIATOR CO.—AFFILIATE OF REYNOLDS METALS CO.

SEE OUR CATALOG IN SWEET'S



Richmond Radiator Company AR-11
19 East 47th Street
New York 17, N. Y.

Please send me information and literature on the Richmond Plumbing Fixtures. No obligation, of course.

NAME.....

COMPANY.....

ADDRESS.....

# extra whiteness

**for mass or contrast in architecture**



"The little red schoolhouse" of song and story is, today, quite apt to be an imposing structure of gleaming white. In schools—as in hospitals, apartment, office, public and industrial buildings—whiteness gives smartness to current designs. Trinity White—the *whitest* white cement is a true portland cement and meets Federal and ASTM Specifications. Use it in architectural concrete units and in a variety of other forms including terrazzo, stucco and cement paint.

as white  as snow

**plain or waterproofed**




# TRINITY WHITE portland cement

**Trinity Division, General Portland Cement Co., 111 W. Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles; 305 Morgan St., Tampa; Volunteer Building, Chattanooga.**

*Specify*

# NEO-RAY

the

## LOUVRED CEILING

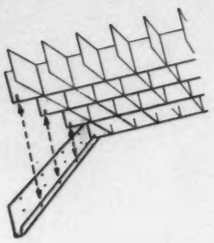
*that*

*Satisfies All!*



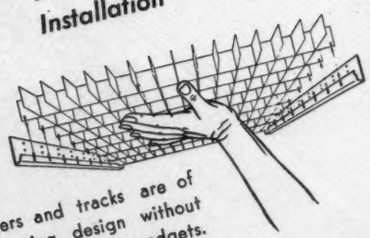
"I Want Perfect Alignment Under All Conditions"

Only Neo-Ray Louvred Ceiling has patented mating slots and tracks to assure perfect alignment always . . . eliminates corkscrew effect.





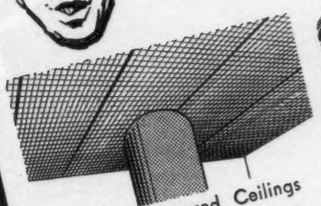
"I Want Simple Low Cost, One-Man Installation"



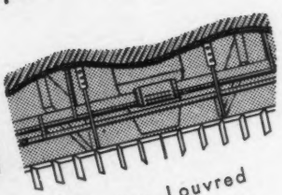
Neo-Ray hangers and tracks are of simple, labor-saving design without complicated fittings or gadgets. Every 12 to 16 sq. ft. merely requires installation of 1 hanger and 4 screws.



"I Want Versatile Louvred Lighting Adaptable To Every Type of Ceiling"



Neo-Ray Louvred Ceilings are made in stock sections. They can be cut on the job to meet any condition such as projections from wall, curved areas or columns.



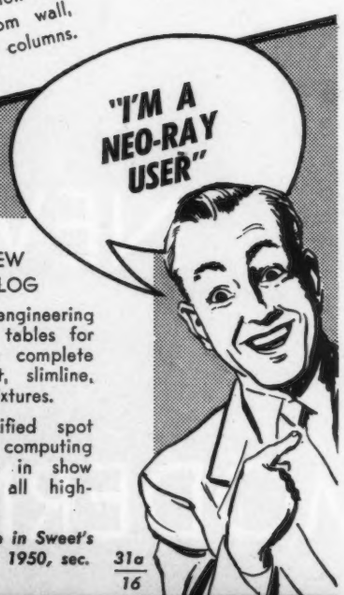
Neo-Ray Louvred Lighting covers bumpy ceilings, unsightly pipes, beams, ducts, etc.



"I Want Adjustable Accent Lighting on Displays from My Louvred Ceiling"



Spot lighting with Neo-Ray "Roto Spot" is avilable at any point in the louvred ceiling. "Roto Spot" fits flush, and allows a 75° swivel in all directions.




SEND FOR NEW 64 PAGE CATALOG

Gives complete engineering data and lighting tables for each item in our complete line of fluorescent, slimline, and incandescent fixtures.

PLUS new simplified spot lamp tables for computing light intensities in show windows and all highlighted areas.

***See our catalogue in Sweet's Architectural File for 1950, sec. 31a/16***

**NEO-RAY PRODUCTS, Inc.**

315 East 22nd St. • New York 10, N. Y.



# NEW KAWNEER STOCK SASH CUSTOM-STYLED FOR MODERN ARCHITECTURE




## UNEQUALED IN PRECISION ENGINEERING AND WORKMANSHIP

Striking simplicity in styling and sound construction make this Kawneer Assembly one of today's truly outstanding architectural metals.

The graceful curve of the sash, the dramatic shadow-line, and the clean plane of the sill create a visual unit which meets the highest standards of contemporary design.

Like all other Kawneer Glazing Assemblies, this Sash incorporates the famous Kawneer resilient-grip principle which insures maximum safety and reliability. The resilient steel spring-clip minimizes breakage due to sudden blows, strong winds, and normal structural settling.

For further information and details, write The Kawneer Company, Department AR-60, 1105 North Front Street, Niles, Mich., or Department AR-60, 930 Dwight Way, Berkeley, California.

THE
**Kawneer**
COMPANY

**ARCHITECTURAL METAL PRODUCTS**

**Store Front Materials**
**Aluminum Roll-Type Awnings • Modern Entrances**
**Aluminum Facing Materials • Flush Doors**

THIS SYMBOL MEANS CLIENT ACCEPTANCE

TEXTOLITE*

Plastic Surfacing

THIS PRODUCT MEANS BEAUTY AND STRENGTH

Roddiscraft

THIS DISTRIBUTOR MEANS SERVICE

Your clients know General Electric. They have faith in its products.

Now General Electric makes Textolite — a quality plastic surfacing material — a beauty with brawn. It's tops for tops wherever you need it — homes, stores, restaurants, clubs, cocktail lounges. Available in a wide variety of solid colors and patterns to carry out decorative schemes.

G-E Textolite is distributed through a nationwide Roddiscraft warehouse organization.

Here you have the perfect combination — a top quality surfacing material that your clients know and accept, easily available for prompt delivery wherever you are.

Your nearest Roddiscraft warehouse will show you samples of G-E Textolite. A descriptive folder illustrating the many attractive patterns and solid colors is yours for the asking.

Roddiscraft

RODDIS PLYWOOD CORPORATION • MARSHFIELD, WISCONSIN

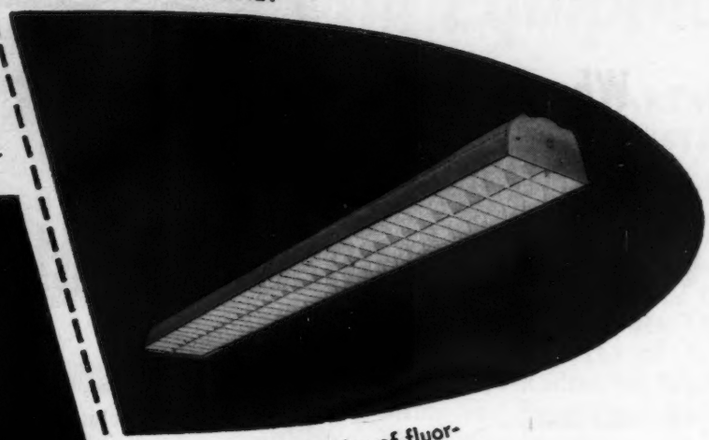
*Reg. U. S. Pat. Off.

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

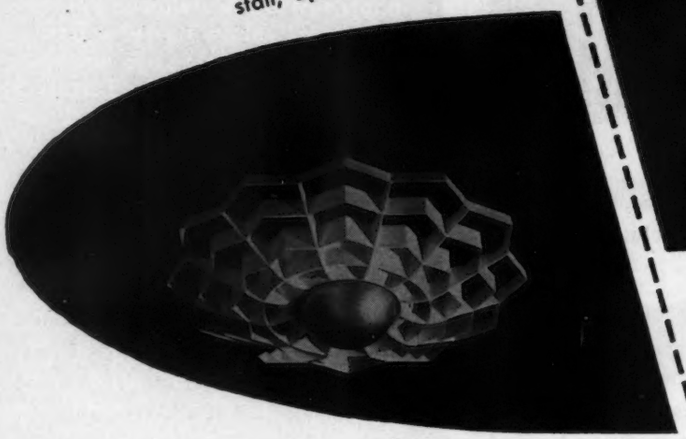
Cambridge, Mass. • Charlotte, N. C. • Chicago, Ill. • Cincinnati, Ohio • Dallas, Texas
Detroit, Mich. • Houston, Texas. • Kansas City, Kan. • L. I. City, N. Y.
Los Angeles, Calif. • Louisville, Ky. • Marshfield, Wis. • Milwaukee, Wis.
New York, N. Y. • Port Newark, N. J. • Philadelphia, Pa. • St. Louis, Mo.
San Antonio, Texas • San Francisco, Calif.

# fluorescent or incandescent

THE CURTIS CORONET



Curtis Sno-Flake for one 300 or 500 watt Mogul base silvered bowl lamp is highly efficient, economical to install, operate and maintain.



THE CURTIS SNO-FLAKE

Curtis "Coronet" series of fluorescent luminaires is designed and engineered to accomodate all 4, 5, 6 and 8-foot lamps . . . slimline . . . low-brightness or starter type.

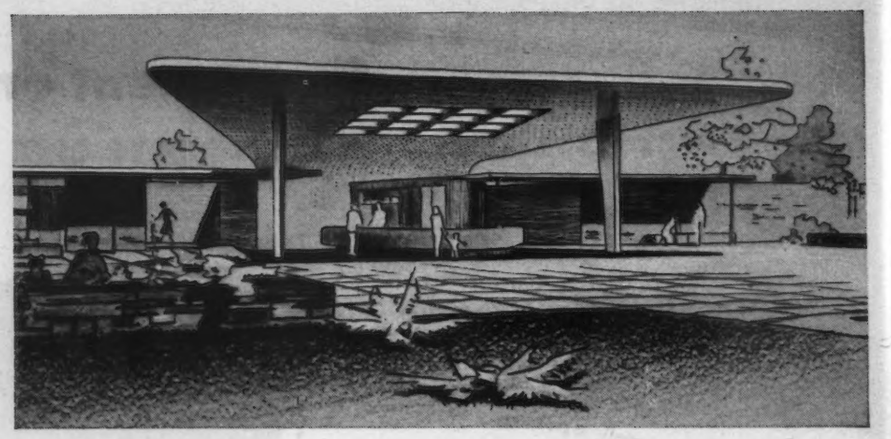
Whether a fluorescent or incandescent light source is required for your next lighting installation, there is a Curtis quality luminaire that will meet exact requirements for efficiency, appearance, installation and maintenance. The "Coronet" and "Sno-Flake" are two new Curtis developments designed and engineered to provide quality illumination for all commercial interiors and the modern classroom. Write for descriptive illustrated bulletins.

**QUALITY WITH FEATURES**



**CURTIS**

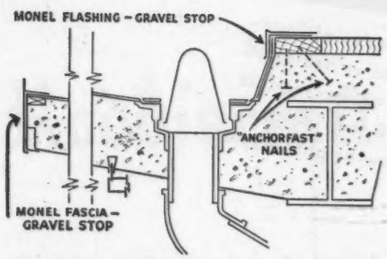
**LIGHTING, INC. • 6135 WEST 65th STREET • CHICAGO 38, ILLINOIS**



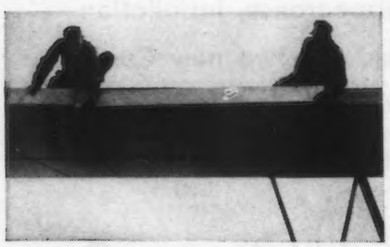
**PLANNED FOR PLAY — BUILT TO STAY.** Architect's drawing of bath house entrance at St. Clair Metropolitan Beach, new Michigan play spot constructed by the Huron Clinton Metropolitan Authority. The two supporting beams are of steel, covered with long-lasting, corrosion-resisting Monel. All fasciae and gravel stops are also Monel. Architects: O'Dell, Hewlett and Luckenbach, Detroit 26, Mich. Fabricator: W. P. Hickman Co., Birmingham, Mich.

## *Where clients seek economy—*

# Careful planners put MONEL on top




**DETAIL OF MONEL GRAVEL STOP DESIGN** above beach entrance to bath house, from plans of O'Dell, Hewlett and Luckenbach. Specifications call for use of Monel "Anchorfast" nails—"The nails with the holding power of screws."



**WORKMEN INSTALL MONEL FASCIAE** on beach canopy which connects the cafeteria and bath house buildings.

***Come along*** to St. Clair Metropolitan Beach—Michigan's newest play spot!

***The voters*** of five counties approved a special levy enabling the Huron Clinton Metropolitan Authority to finance this multimillion dollar recreational area, located just 22 miles from Detroit's City Hall.

For a good many roofing parts—and for a good many reasons, too—the architects, O'DELL, HEWLETT AND LUCKENBACH, specified MONEL® Roofing Sheet.

***With its low expansion*** rate, its high strength and toughness, its resistance to fatigue, corrosion and erosion, Monel assures "life-of-the-building" protection for structures at the playground.

Structures, for example, like the flat concrete canopies above the promenade walks. (See illustration at left.) These canopies have Monel fasciae and gravel stops. And the canopy supports at the bath house entrance (shown above) are sheathed with Monel.

As we move around the 550-acre tract that was reclaimed from the low, swampy ground of the Lake St. Clair shore, we find that every building has Monel fasciae, Monel gravel stops. That all exposed flashings are Monel. That leaders and gutters on the administration building and cafeteria have been fabricated from the same rugged Nickel Alloy.

***For all these applications,*** the excellent mechanical properties and high corrosion-resistance of Monel are important. They bring dependable protection from heat, sun and dampness — from wind, rain and swirling sand. *They mean long life and low maintenance expense.*

***And here's another advantage!*** They make it possible to use reduced sheet thicknesses, which are more economical and lighter in weight.

Do *your* clients a lasting service—recommend Monel for roofs and roofing parts on their buildings!

### FOR HELP WHEN YOU NEED IT

Call on *INCO's* Technical Service any time you want specific information on contemplated uses of Monel Roofing Sheet And remember that samples, booklets for clients, working instructions for contractors and fabricators, and other helpful literature are always available to you without cost or obligation.

**THE INTERNATIONAL NICKEL COMPANY, INC.**

*67 Wall Street, New York 5, N. Y.*

EMBLEM OF SERVICE INCO TRADE MARK

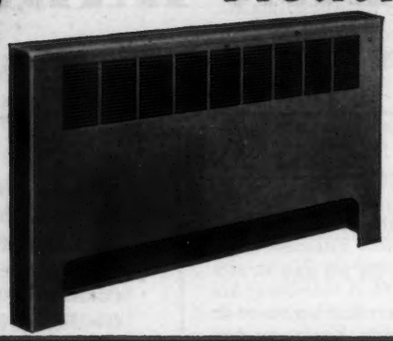
**MONEL... *for the life of the building***

# QUICK RESPONSE

## another comfort and economy feature of fedders Heating Equipment

### CONVECTOR-RADIATORS

Made in a complete line of free standing and recessed models, combining handsome appearance, and uniform comfort. Easily installed in new or remodeling work.



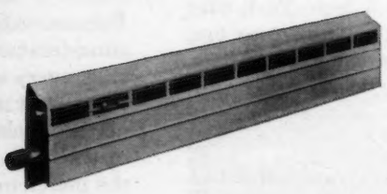
### WALL RADIATION

Available in a wide range of lengths with expanded mesh, flat and sloping top cabinets for residential, institutional, commercial and industrial applications.



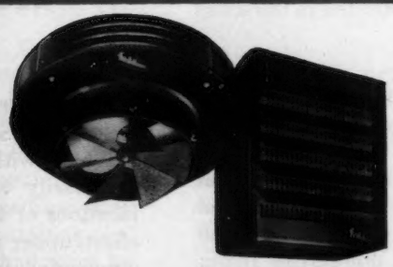
### BASEBOARD RADIATION

Features exclusive **ANTI-STREAK COVER DESIGN** which eliminates streaking of walls and draperies (patents pending).



### UNIT HEATERS

Made in a complete line of horizontal and downblow models ranging from 100 EDR up. Widely used throughout industry for heating in winter and air circulation in summer.



### *for* HOME, APARTMENT, BUSINESS, INDUSTRIAL AND INSTITUTIONAL USE

**Men who know heating are welcoming the quick response of Fedders high efficiency fin and tube heating elements. They are component parts of Fedders Convector-Radiators, Wall-Radiation and Baseboard Radiation. They provide quick warm-up and reduce time lag with resulting even firing curve so necessary under today's critical requirements for fuel economy. Overheating in off-season months and forcing of fire in severe weather are reduced because Fedders modern radiation equipment...**

### WORKS HAND-IN-HAND WITH MODERN THERMOSTATIC CONTROLS

**Handsome styling, space saving, light weight for easy handling combine to provide ideal installations for the ultimate in comfort. Fedders offers a complete line to fit household, commercial, institutional and industrial requirements.**

***Write for Bulletins***

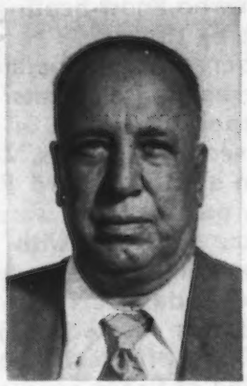
**FEDDERS-QUIGAN CORPORATION**
**BUFFALO 7, NEW YORK**

*fedders-Quigan*

*One of a series of papers prepared by leading authorities on air conditioning. The opinions and methods presented in each instance are their own and are not necessarily endorsed by the manufacturers of "Freon."*

# AIR CONDITIONING THE MODERN HABERDASHERY

*by A. Urban Zimmermann*



**A. URBAN ZIMMERMANN**—*Mechanical Engineer—is a graduate of the University of Illinois. A member of his own firm—Zimmermann & Luks, New York—he has supervised air conditioning several important stores and structures including Wallachs (men's clothing) Brooklyn, Newark, White Plains, New York; the Great Lakes Carbon Building, offices of the Continental Can Company, and the Lehman Bank Building, all in New York; and various others.*

It was over twenty years ago that a New York City firm operating a chain of men's furnishing stores first decided to invest in an air conditioning system. At the time, these stores operated with open doors during summer months, but this was an unsatisfactory practice at best.

The installed air conditioning system consisted of two suspended cooling and dehumidifying units, similar in design to unit heaters of that day. A water-cooled refrigeration condensing unit was also located in the basement of the structure.

One of these two units, *without* filters, was suspended at the rear of the conditioned area. This served to cool and dehumidify recirculated air. The second unit, *with* filters, was located in an enclosure over the entrance door, and this both cooled and dehumidified air taken from the display foyer. The intake of air assured an excess of pressure in the conditioned area and gave the air a tendency to flow out the door, minimizing influx of dust, dirt and insects. Although of simple design, this pioneer air conditioning system proved to be an exceptionally good investment.

## IMPORTANCE OF AIR CONDITIONING

Today, most owners of large and small haberdashery stores fully recognize the importance of the year-round air conditioning. Adequate, automatically controlled air conditioning has a definite effect on merchandise, the efficiency of employees, and the comfort of customers.

It is naturally desirable that merchandise be displayed to best advantage in an orderly, neat and clean manner. Of course, arrangement of the stock and good lighting are essentials, but the introduction and recirculation of filtered air in the store is the most contributive factor toward maintaining the neatness and cleanliness of the merchandise.

Control of temperature and humidity in the conditioned area of the store reduces, or entirely eliminates, employee and customer perspiration. This materially lessens risk of damaging the stock in handling. It also minimizes the need for periodic cleaning, renovating or disposal of the merchandise at lower prices. Still another advantage accruing from the air conditioning system is the reduced amount of store interior redecorating required.

## STIMULATES SALES

Because customers are naturally the most important consideration of any store owner, it stands to reason that every effort should be made to provide for their comfort at all times. The modern, air conditioned store attracts customers, encourages them to remain longer in the store and to be more favorably impressed with the merchandise offered. It definitely helps boost sales.

## RECOMMENDED INTERIOR CONDITIONS

While the atmosphere maintained by air conditioning systems within stores will necessarily vary in different locations of the country, the chart, upper right, shows recommended interior summer conditions for stores in northern sections of the United States at sea level with outside design conditions of 93° F. Dry Bulb and 75° F. Wet Bulb.



Note that where customers remain for long periods in the store, both temperature and humidity should be lower than for transient occupancy.

| | CONTINUOUS OCCUPANCY | TRANSIENT OCCUPANCY |
|---|---|---|
| Effective Temperature | 73° F. | 74° F. |
| Dry Bulb | 78° F. to 81° F. | 79° F. to 82° F. |
| Relative Humidity | 55% to 35% | 60% to 40% |

## COMMERCIAL MAXIMUM CONDITIONS

The over-all capacity of a suitable air conditioning system should be predicated by: (1.) Cubic feet per minute of outside air based on 7½ to 10 c.f.m. per person. (2.) Exposure of building walls, floors, ceilings. (3.) Watts of lighting per square foot, which may vary from 1.5 to 5.0 watts. (4.) Sewing machines, pressing equipment and the like. (5.) Number of employees and customers, based on average time of occupancy. The total amount and distribution of conditioned air within a store is best determined by the exact location of the store areas—basement, ground and upper floors—and upon concentration of artificial light and of the people load in these specific areas.

## AIDS SALESMANSHIP

Employees in stores of this type should also be considered. To do their best work and further their sales, they must be ambitious, pleasant, neat and courteous. However, since air conditioning promotes their greater comfort, prevents perspiration, reduces risk of soiling merchandise, and eliminates many basic factors that contribute to fatigue and irritability, it should not be confined to actual selling areas. It will readily repay owners to install air conditioning in all sections of the store, such as tailor shops, stock rooms, shipping departments, window-display preparation rooms, and other locations.

## ARCHITECTURAL DESIGN ALSO IMPORTANT

The modern air conditioning system should also fit in with the architectural design of both the interior and exterior of the individual store. Some small stores may have a self-contained 2, 3, or 5-ton unit, or a combination of units, and require no particular architectural treatment. However, many small and medium-sized stores may be substantially enhanced by installing concealed self-contained units with disguised duct work for air distribution, return, and make-up. Larger stores, although sometimes handled by self-contained units, are more often served by a central system with concealed air distribution, return, and make-up air systems. While it is desirable that component parts of the system harmonize with the architectural design of the store proper, correct distribution and introduction of air into the area, as well as return air systems, must take precedence. Wherever possible, however, design of all outlets and return grilles should harmonize with the general decorative scheme.

## LOCATION OF EQUIPMENT

The main equipment room for the larger-type store may be in the basement, on the top floor, or even on the roof. Each location, of course, will involve its own specific construction problems. In some localities, a chilled water circulating system may be required with air handling units located on individual floors. Water-savers may be needed for condensing units in the equipment room.

Introduction of outside air is also an individual problem, depending upon location of the air handling units and where freshest, cleanest and most odorless air may be obtained.

Fresh, outside air intake should always be sized for 100% of the total capacity of the air handling units. This is so that fresh air, without refrigeration, can be circulated within the structure when outside air conditions are suitable.

## IMPORTANCE OF SAFETY

Safety is a feature that should be carefully considered in every installation. It is often found economical and desirable to add some features that are not specified or made mandatory by local laws governing the installation. These added features may include: duct smoke and fire detectors; fire control switches; automatic fire extinguishers; automatic duct fire dampers and so on. Still another safety factor which most certainly should not be overlooked is the selection of air conditioning equipment designed to utilize "Freon" safe refrigerants.

Air conditioning the modern store has practically become a "must." But there is ample evidence that it's a profitable investment from the store owner's point of view. Conditioned air not only insures the personal comfort of customers and employees, but also aids materially in maintaining high efficiency . . . a definite contribution toward more and bigger sales.




*Because safety is obviously a factor of major importance in air conditioning store structures, architects and consulting engineers today unhesitatingly urge the installation of equipment designed to use "Freon" refrigerants. These are safe . . . nontoxic, nonflammable, nonexplosive and odorless. Pure as scientific methods of production can make them, they help prolong economical operation of the system. That is why "Freon" refrigerants are so often written in specifications. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.*

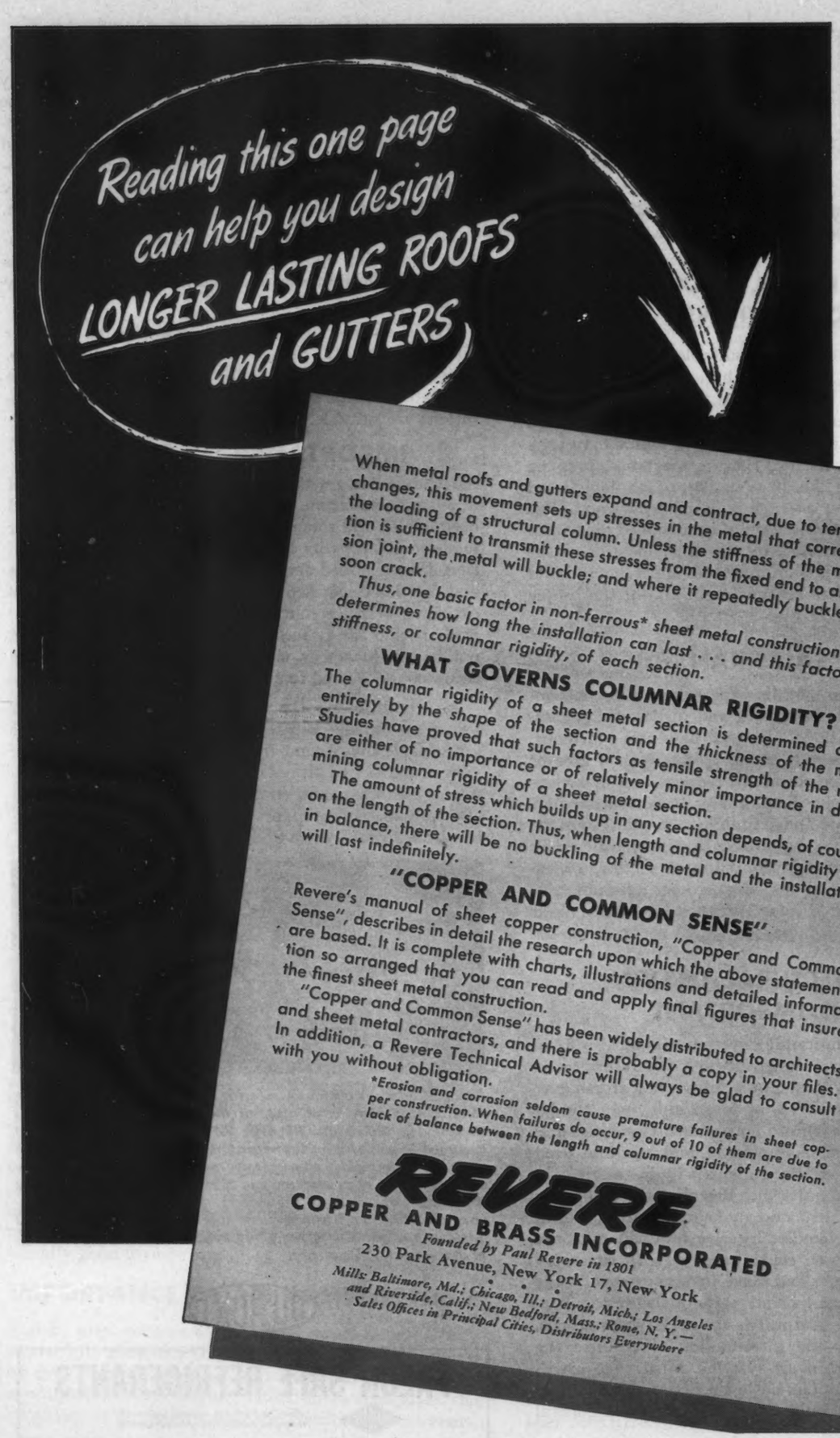
DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

FREON SAFE REFRIGERANTS

KINETIC

*"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants*




When metal roofs and gutters expand and contract, due to temperature changes, this movement sets up stresses in the metal that correspond to the loading of a structural column. Unless the stiffness of the metal section is sufficient to transmit these stresses from the fixed end to an expansion joint, the metal will buckle; and where it repeatedly buckles, it will soon crack.

*Thus, one basic factor in non-ferrous* sheet metal construction usually determines how long the installation can last . . . and this factor is the stiffness, or columnar rigidity, of each section.*

## WHAT GOVERNS COLUMNAR RIGIDITY?

The columnar rigidity of a sheet metal section is determined almost entirely by the *shape* of the section and the *thickness* of the metal. Studies have proved that such factors as tensile strength of the metal are either of no importance or of relatively minor importance in determining columnar rigidity of a sheet metal section.

The amount of stress which builds up in any section depends, of course, on the length of the section. Thus, when length and columnar rigidity are in balance, there will be no buckling of the metal and the installation will last indefinitely.

## "COPPER AND COMMON SENSE"

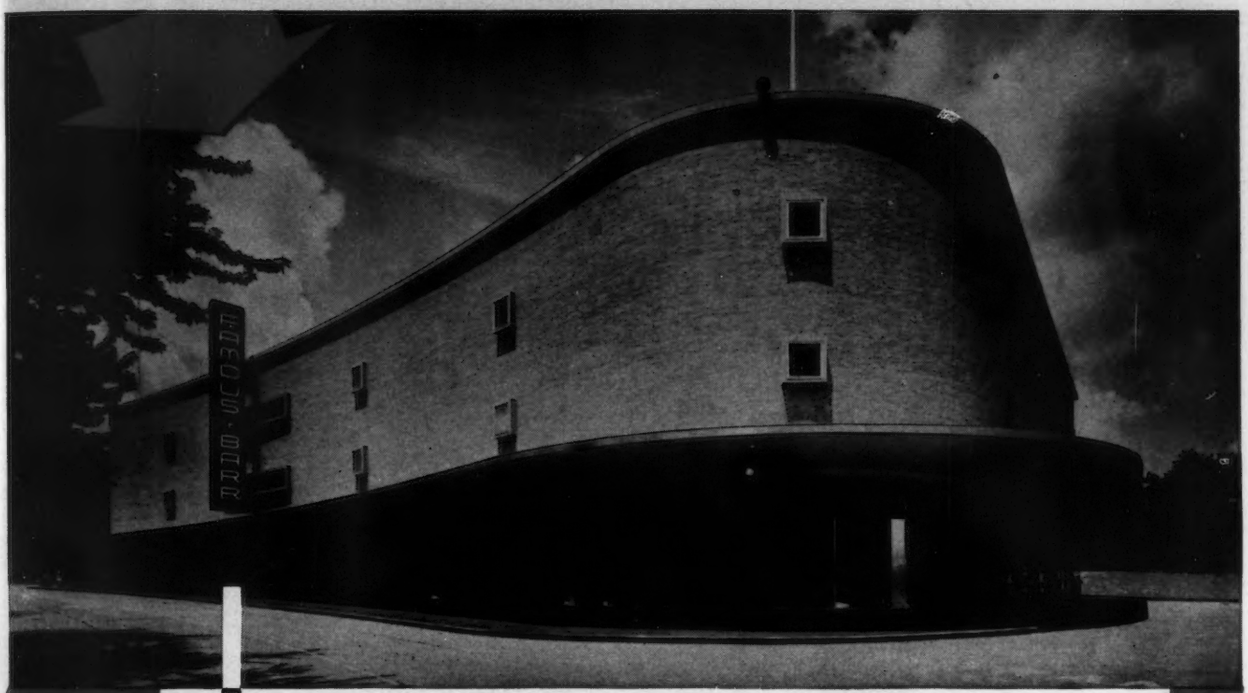
Revere's manual of sheet copper construction, "Copper and Common Sense", describes in detail the research upon which the above statements are based. It is complete with charts, illustrations and detailed information so arranged that you can read and apply final figures that insure the finest sheet metal construction.

"Copper and Common Sense" has been widely distributed to architects and sheet metal contractors, and there is probably a copy in your files. In addition, a Revere Technical Advisor will always be glad to consult with you without obligation.

*Erosion and corrosion seldom cause premature failures in sheet copper construction. When failures do occur, 9 out of 10 of them are due to lack of balance between the length and columnar rigidity of the section.

**REVERE**
**COPPER AND BRASS INCORPORATED**
*Founded by Paul Revere in 1801*
230 Park Avenue, New York 17, New York
•
*Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—*
*Sales Offices in Principal Cities, Distributors Everywhere*

# it's Famous...




ANOTHER FRANK ADAM INSTALLATION
*—Famous-Barr Company's suburban branch department store in Clayton, Missouri.*

## in more ways than one!

This suburban store—a branch of Famous-Barr Company of St. Louis—is popularly known among local shoppers as "Famous." To architects and engineers, it is famous too for its ultra modern design.

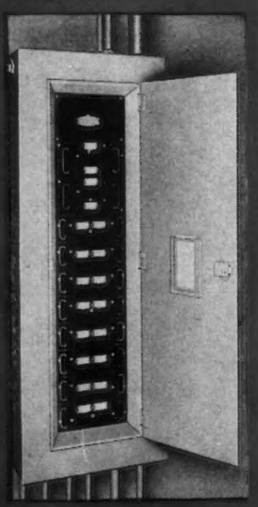
Frank Adam Electric Company is proud of the part that its products are playing in this "famous" store. Three of its panelboards are providing needed light and power, including . . .

① NTIC-4LD, a safety type panel with single pole tumbler switch and cartridge fuse circuits that are ideal for lighting and appliance branch circuits.

② PULFUZSWITCH, a safety-type feeder, distribution panelboard, featuring a pull-out type switching unit with clamp type fuseholders, and

③ KLAMPSWITCHFUZ, another safety-type feeder panel of larger capacity, featuring a hinged type pull-out switching unit, with clamp-type fuseholders also.

This Famous store is just one of the many outstanding ⓐ installations that are providing safe, dependable and long-lasting service. For further information, contact your nearest ⓐ Representative (he's listed in Sweet's) or write for Bulletin.



*Typical ⓐ Pulfuzswitch Panelboard with 30 and 60 amp. branches installed in Famous-Barr's Clayton store.*

FA TRADE MARK

**Frank Adam Electric Co.**

ST. LOUIS 13, MISSOURI

*Makers of* BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER



McKinley Grade School, Coffeyville, Kan. Architect: Thomas W. Williamson & Co., Topeka, Kan. Contractor: Charles Bennett Construction Co., Coffeyville, Kan.

Look at the windows in this modern school building. See how bright and clear classrooms can be . . . how easy it is to have natural ventilation in virtually every type of weather. It's another Lupton Metal Window installation with all the advantages of modern window design plus economical installation. Lupton Metal Windows are precision-built at every point. Will not warp, swell or shrink—always easy to operate. Beautifully designed locking hardware allows finger-touch operation. Lupton Metal Windows are made in steel and in aluminum in sizes and designs particularly suitable for school building requirements. Write for our General Catalog or see it in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.
700 East Godfrey Avenue, Philadelphia 24, Penna.
*Member of the Metal Window Institute*

# LUPTON METAL WINDOWS



*See*
*the difference in*
**MENGEL** *Stabilized*
**SOLID-CORE** *Flush* **DOORS!**

Mengel Stabilized Solid-Core Flush Doors employ an entirely unique and exclusive principle *to give you a new standard of stability and dependability* — and at strictly competitive prices.

Instead of attempting the impossible task of *preventing* expansion and contraction in wood, Mengel has developed a construction design which *absorbs* expansion and contraction within the core itself. All Mengel core members are deeply slotted at frequent intervals, both with and across the grain. The result is that the *slots* expand or contract in width, but the *door* remains stable!

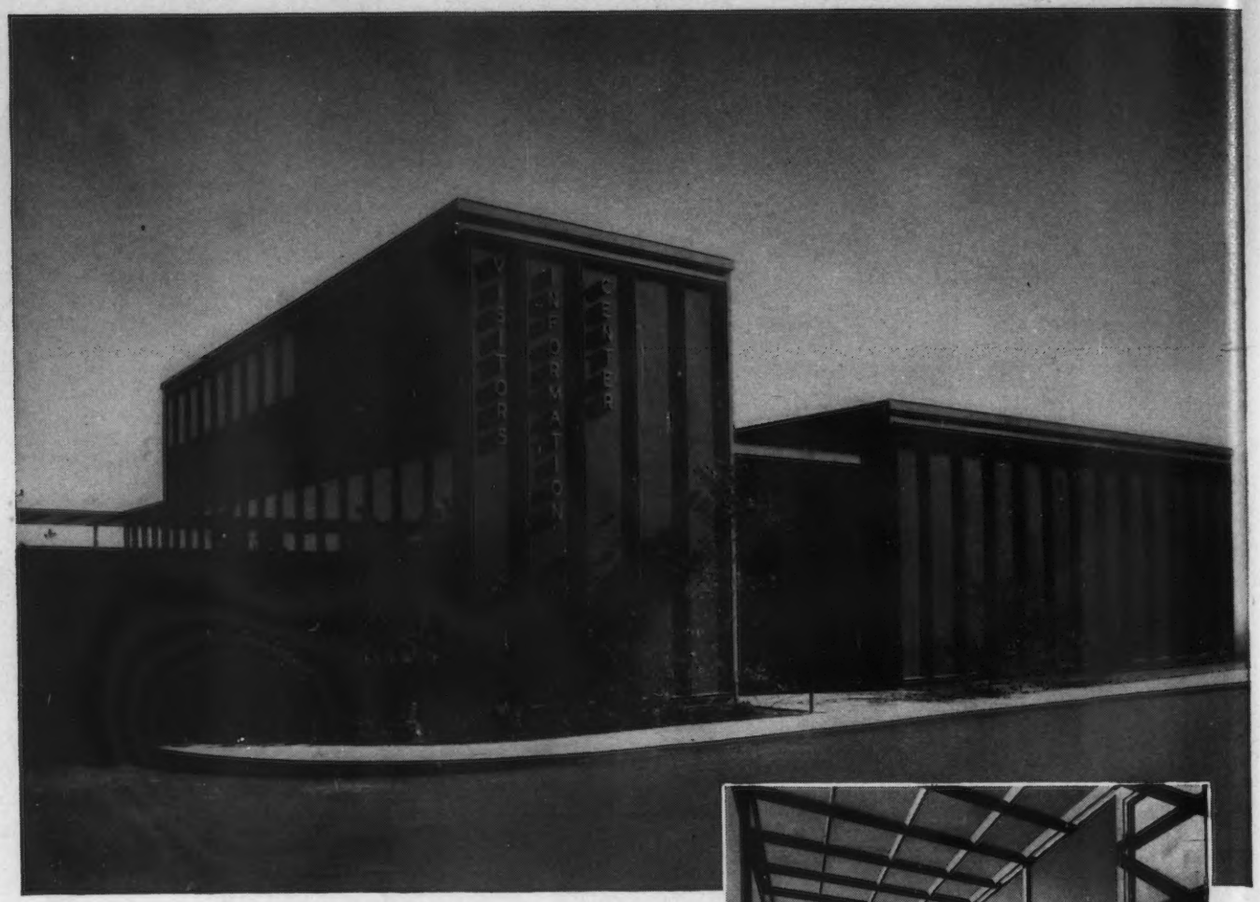
Get all the facts, and see a cutaway sample. When you *see* the difference, you'll greatly prefer Mengel Stabilized Solid-Core Doors!

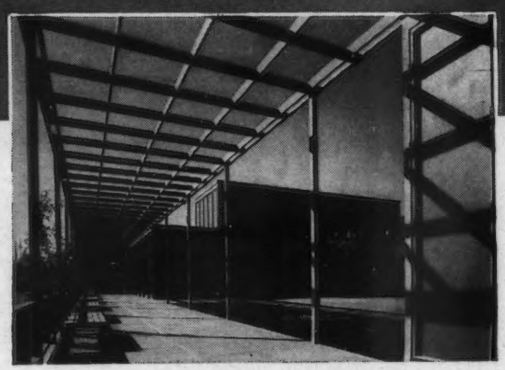
Also see —
MENGEL HOLLOW-CORE FLUSH DOORS
the finest products of their type on the market.

*All standard stock sizes and species available*

**FOR FULL DETAILS, PLEASE JUST WRITE YOUR NAME AND ADDRESS IN MARGIN, AND MAIL TO —**

*Plywood Division* • **THE MENGEL CO.** • *Louisville 1, Kentucky*



Attractive planning of outdoor areas is exemplified by this corridor connecting the public block and the garden equipment room. Decorative paneling is further emphasized by the use of bold color—deep greenish blue for the plywood panels, pale sea-green for the stops, blue-black for the exposed edges of the 2x6's. Doors are a deep wine red.

# Structure Becomes Design When You Work With Douglas Fir Plywood

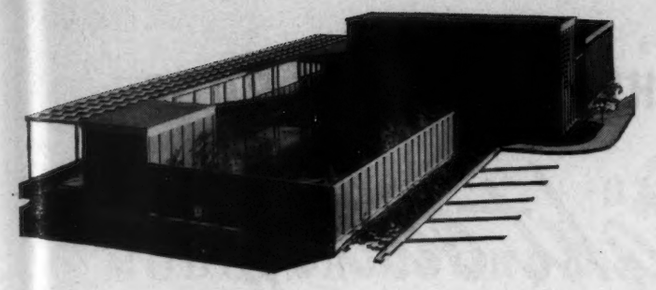
TYPICAL of the simplification of approach possible with plywood is this striking Visitors Information Center of the Portland Chamber of Commerce.

Erected in the spring of 1948, this unusual, award-winning building takes full advantage of plywood's unique characteristics. The structural strength and rigidity of the panel material made possible a design both simple and effective—without unnecessary elements of either structure or design.

It is just one of many examples of Douglas fir plywood's contribution to a fresh, new architectural concept.

**Douglas Fir Plywood**

AMERICA USIE



View looking down shows arbor-covered terrace and walled garden separating larger public block from the garden equipment building at lower left. Public areas consist of a lobby surrounding an information counter, two exhibit rooms, rest rooms. Staff areas provide a manager's office, conference room, and an attendant's office behind the information counter. The second story contains storage and work space.



The pleasing simplicity of design is carried inside, where smooth plywood walls offer dramatic contrast to the alternating-grain floor and ceiling treatment.




## Large, Light, Strong Real Wood Panels

DOUGLAS FIR PLYWOOD ASSOCIATION
Tacoma Building, Tacoma 2, Washington;
848 Daily News Bldg., Chicago 6, Illinois;
1232 Shoreham Bldg., Washington 5, D.C.;
500 Fifth Avenue, New York City, 18.

## These Grades of Plywood Will Prove Most Useful in Design and Construction

EXTERIOR-TYPE
Douglas Fir Plywood
PLYSHIELD ®
GRADE A-C
D.F.P.A. INSPECTED
EXT-DFPA

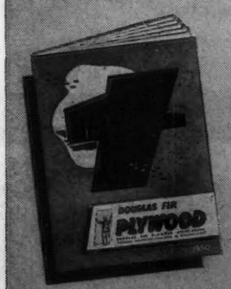
**PlyShield is the siding grade of Exterior-type plywood. Fits any architectural style; can be utilized for flush surface, lap siding, wide siding, board and batten.**

INTERIOR-TYPE
GENUINE
Douglas Fir Plywood
PLYSCORD ®
GRADE C-D
SHEATHING
D.F.P.A. INSPECTED

**PlyScord is the unsanded construction grade—for strong, rigid wall and roof sheathing and subflooring. Use it for basement and foundation forms, too; can be stripped and re-used for sheathing on the same job.**

Douglas Fir Plywood
PLYPANEL ®
GRADE A-D
INTERIOR – TYPE
D.F.P.A. INSPECTED

**PlyPanel is the "one-side" grade of interior-type plywood—for real wood paneling, cabinets, built-ins. Provides a smooth, firm underlayment for wall-to-wall floor coverings, too.**

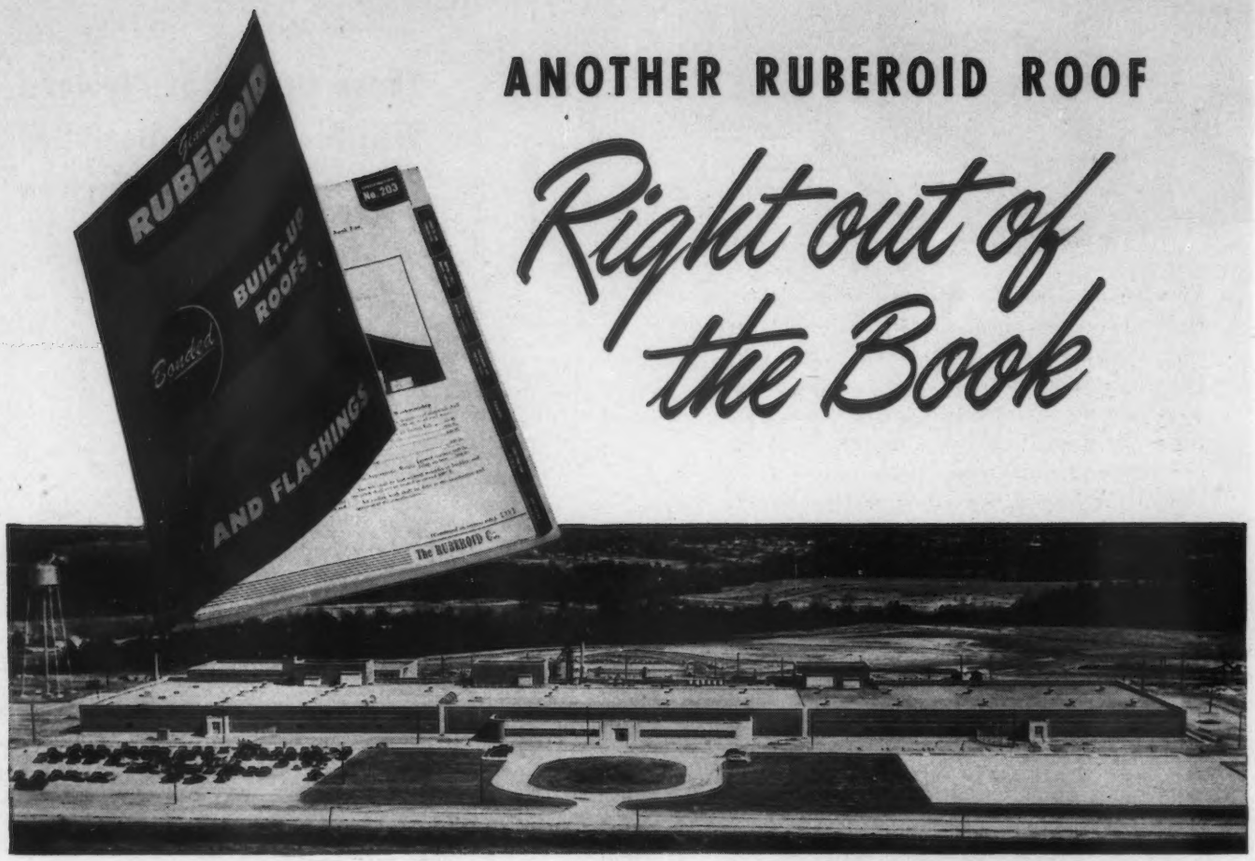



**For complete data on Douglas Fir Plywood, including information on other grades, see Sweet's File, Architectural, or write for basic catalog—sent free to any part of the United States. Just write any of the offices listed at the left.**

USIEST BUILDING MATERIAL

# ANOTHER RUBEROID ROOF

# *Right out of the Book*




Harris Plant, Greenwood Mills, Greenwood, S. C.
Architects and Engineers: McPherson & Co., Greenwood, S. C.

Greenwood Mills' newest plant combines efficiency with beauty. Stretching long and low over this tree-fringed Carolina plain, its 210,000 sq. ft. of roof area demanded a roof that would stand up under the hot Southern sun without drying out and cracking... one that would apply easily and smoothly over this broad expanse... a roof that would be rot-proof and enduring.

Yet, the choice was a simple operation. The architect selected a time-tested Ruberoid specification... *time-tested,* yes, *but as modern as the functional design of the plant.*

Ruberoid materials and specifications are well-supported by a background of more than a half a century of *proven performance.* The book shown here, "Ruberoid Bonded Built-Up Roofs and Flashings" is a complete technical reference on how to select and apply *the right roof for every job.* If you don't have it, send for it.

The **RUBEROID** Co. built-up roofings

# BUILDING RESEARCH AND MODULAR COORDINATION ARE NEEDED NOW

THE prospect that a substantial portion of our national productivity will be devoted to defense measures for several years to come makes the reduction of non-defense spending mandatory. In the budget-paring process, there will be a temptation to eliminate expenditures that will not produce tangible, or at least measurable, results from one fiscal year to another, especially where long-term benefits are not readily apparent. Building research may well appear to be in this category, and recent actions of Congress indicate that the research program of the Housing and Home Finance Agency will operate next year on a greatly reduced budget unless the importance of a continuing research program can be impressed upon the appropriations committees.

The National Defense Committee of the A. I. A. has taken the position that the present emergency calls for an intensification of the technical research program in housing, rather than a curtailment. ARCHITECTURAL RECORD concurs in this view. The probable extended duration of the defense emergency will not permit the country to construct stop-gap facilities on anything like the scale assumed during World War II. Victory in Korea will not "end the war," as it was hoped V-J Day would do. Wherever immediate, pressing, military demands will permit, we must coordinate emergency aspects of building with long-term considerations so as to conserve overall capital resources. Continuance of a housing research program contributes directly to this end.

A sound technical research program must include the study of procedures to facilitate application of research results to actual design and construction. To this end, efforts to promote the adoption of modular coordination throughout the building industry are a definite part of the program. Many architects have resisted use of the system in preparing plans because modular products are not universally available. On the other hand, many manufacturers have stated they will not convert to modular sizes until there is more demand for them by architects and engineers. Now is the time to break this circle and proceed toward realization of the building operation as an assembly process using dimensionally coordinated materials and equipment.

Necessity for conservation of our productive resources will not permit us to continue wasting materials by cutting and fitting on the job, when this waste can be so largely eliminated by modular dimensioning of plans and the use of modular products. Neither can we afford the wastage of labor necessary in wasting the materials.

The modular coordination concept is based on many years of sound research. Its acceptance has undoubtedly been hampered by the scientifically accurate but somewhat forbidding name. Nevertheless, the concept is not a complicated one, as the current educational campaign sponsored by the A. I. A., Producers' Council, N. A. H. B., and HHFA seeks to demonstrate. The articles on modular coordination which have appeared in ARCHITECTURAL RECORD over the past few months, as well as the Time-Saver Standards in this issue, are also dedicated to this point of view, and to the belief that modular coordination offers an industry-wide basis for increasing the efficiency of building design and construction.

Harold D. Hauf

Editor-in-Chief

# ART BUILDING, CARLETON COLLEGE

***Boliou Hall, Carleton College, Northfield, Minn.***

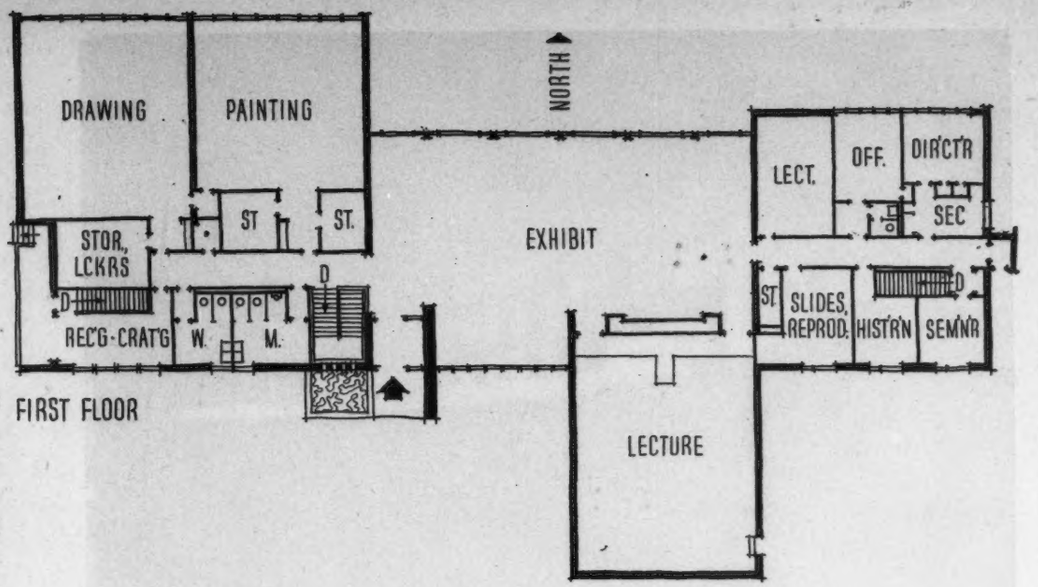
***Magney, Tusler & Setter, Architects***



Photography Inc. photos



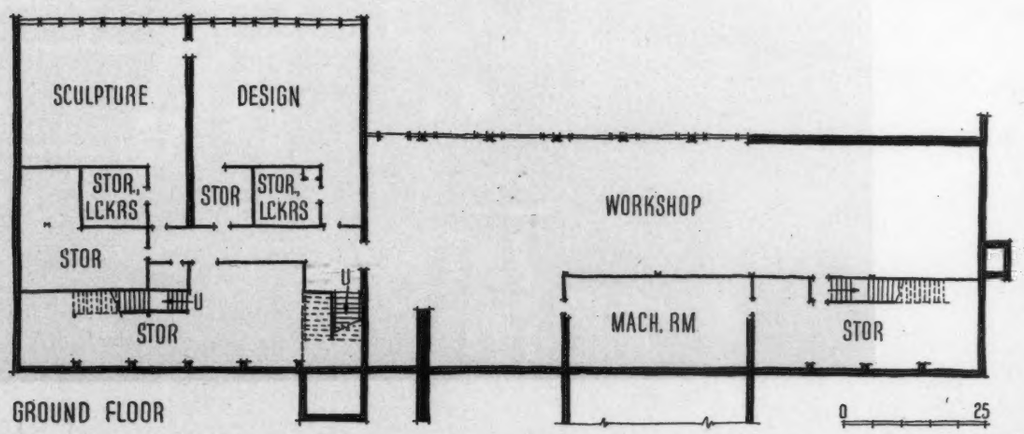





AN art building for a small college should be one of the pleasantest of commissions for architects, and that is what this one proved to be, for the architects enjoyed the full sympathy and understanding of their clients. As a result the building, though small, shows an unusual freedom both in plan and in expression.

The plan places the exhibition space as a connecting link between faculty offices and teaching studios, a deliberate reversal of the principle that a useful room should not be a traffic thoroughfare. Here professors, students and visitors are led past or through the exhibits, and the work gets far more attention than if isolated. The idea works especially well in connection with the large lecture room, which is used by other college classes than art; its doors open directly to the exhibit space, to lead other students through the exhibits. This little scheming by the designers has worked out well. In fact they got an extra dividend, in that students use the same room for lounging.

Fortunate also is the location of the building. It faces north, and overlooks a pleasing series of small lakes. This little chain forms a snug valley, the building set into a slope at the valley end and getting a handsome view along with the treasured north light. It's all very pleasant, even if not especially conducive to the more introverted expressions of experimental art.





*Students seem able to resist the temptation to paint landscapes, even though the setting of Boliou Hall abounds in natural beauty, with a chain of little lakes leading away to the north*

Photography Inc. photos





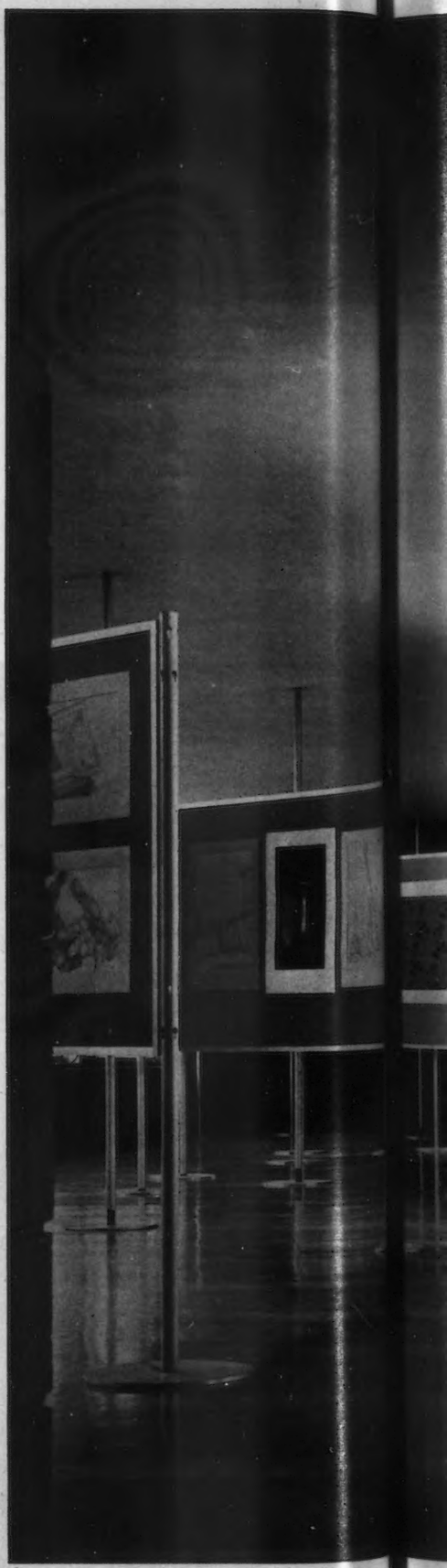
*The art building is set into the side of a low hill. Its main entrance is at the top of the rise on the upper level. Lower level, with huge windows to the north light, has entirely different aspect*



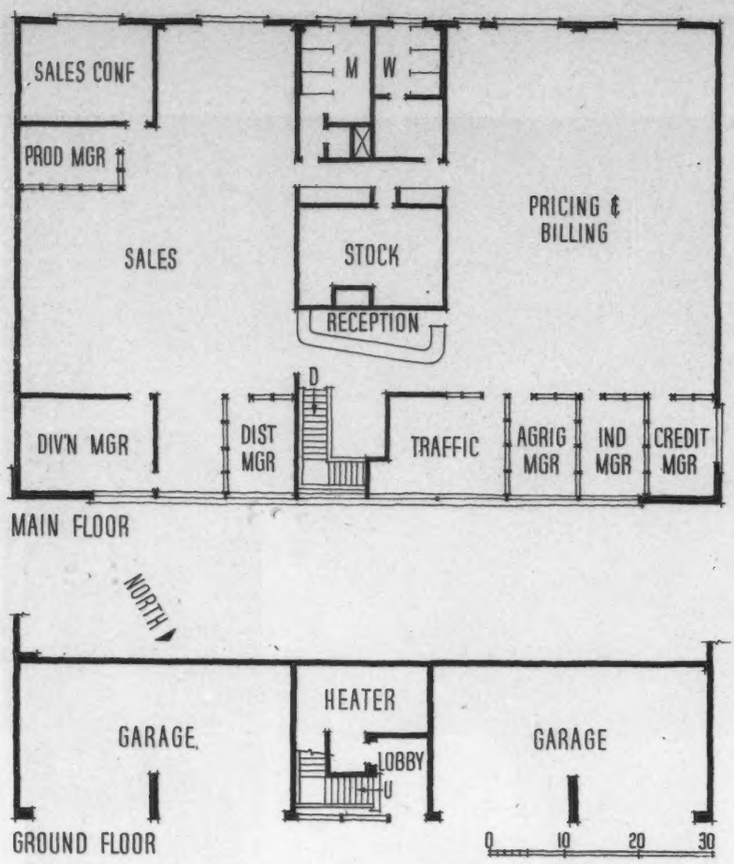


*To make "hanging" as easy as possible, a simple, tool-free system was designed. Pictures are hung on 4 by 4 ft or 4 by 8 ft hollow-core veneered sheets, framed in aluminum. Buttons on the ends of the frame are set into key slots in aluminum poles. Some of the poles stand in bases on the floor; others are screwed into metal cups in the ceiling. The longer pole becomes a pivot, about which the frames and standing poles can be swung around to any desired position*





Photography Inc. photos







Robert C. Cleveland Photos

## WEST COAST OFFICES



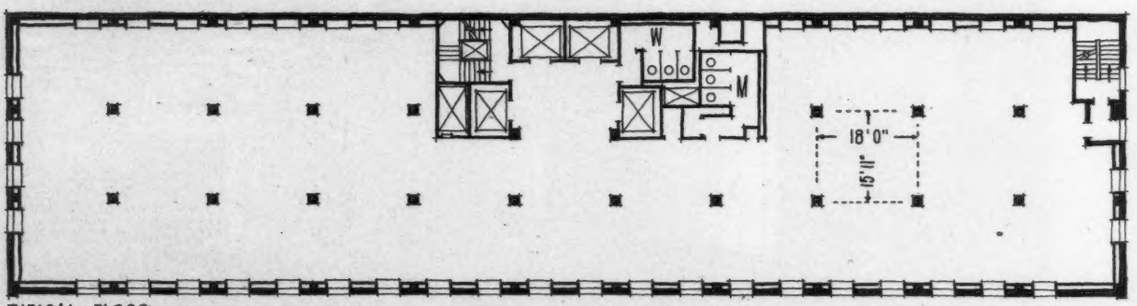
Photo Associates: Ulric Meisel Photos



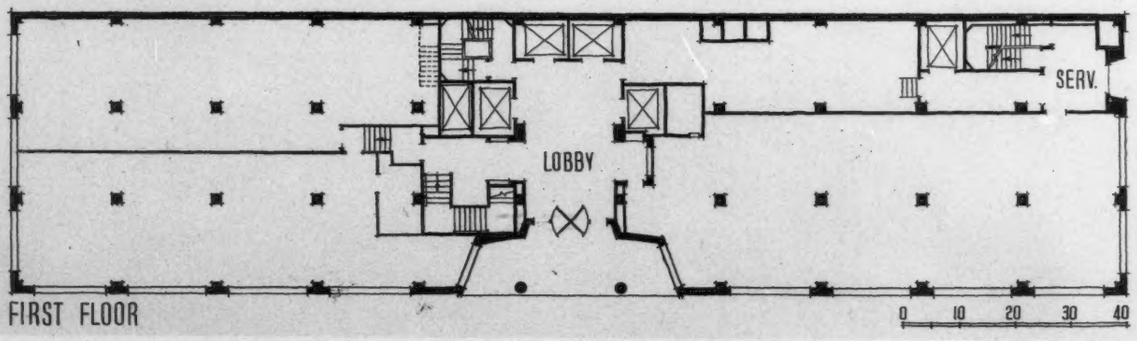


extreme temperature differentials between outside wall and furring frequently result in strain cracks. Plaster furring and ceilings have been protected by metal beaded joints, to permit contraction and expansion and shearing of planes without unsightly diagonal cracks.

It is interesting to note that the increased stature of the life insurance company, by virtue of this building, has already been reflected in sales.

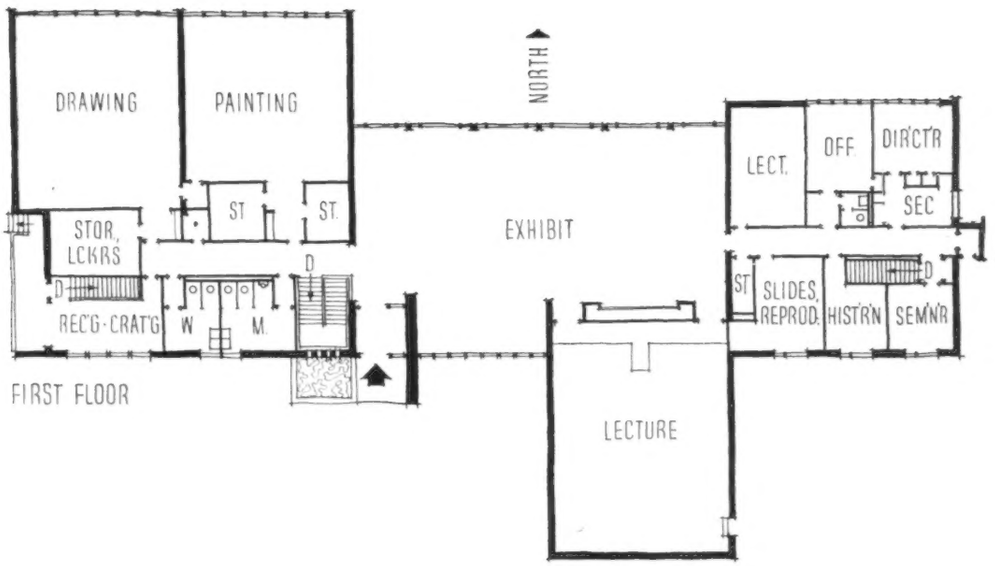



TYPICAL FLOOR




FIRST FLOOR

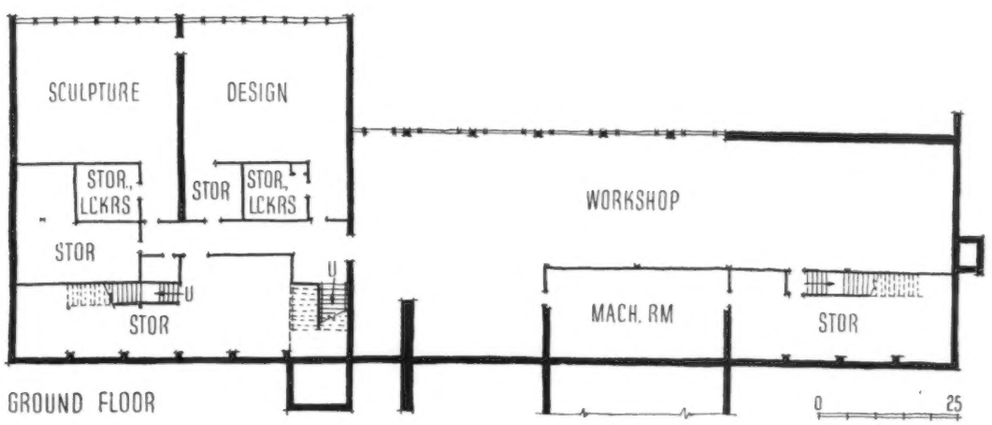


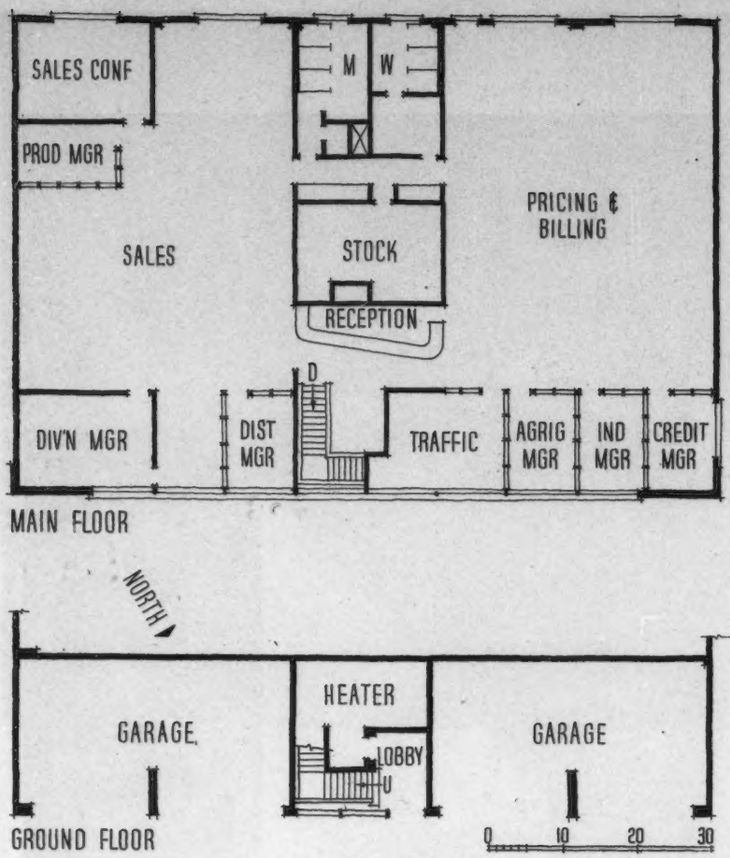



An art building for a small college should be one of the pleasantest of commissions for architects, and that is what this one proved to be, for the architects enjoyed the full sympathy and understanding of their clients. As a result the building, though small, shows an unusual freedom both in plan and in expression.

The plan places the exhibition space as a connecting link between faculty offices and teaching studios, a deliberate reversal of the principle that a useful room should not be a traffic thoroughfare. Here professors, students and visitors are led past or through the exhibits, and the work gets far more attention than if isolated. The idea works especially well in connection with the large lecture room, which is used by other college classes than art; its doors open directly to the exhibit space, to lead other students through the exhibits. This little scheming by the designers has worked out well. In fact they got an extra dividend, in that students use the same room for lounging.

Fortunate also is the location of the building. It faces north, and overlooks a pleasing series of small lakes. This little chain forms a snug valley, the building set into a slope at the valley end and getting a handsome view along with the treasured north light. It's all very pleasant, even if not especially conducive to the more introverted expressions of experimental art.









Robert C. Cleveland Photos

## WEST COAST OFFICES



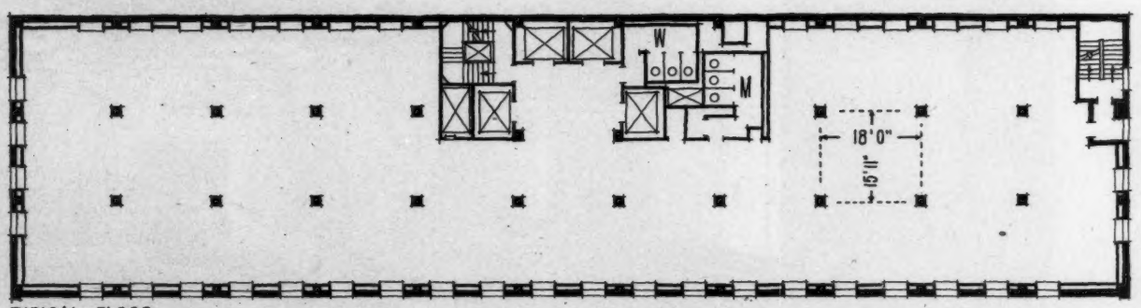
Photo Associates: Ulric Meisel Photos



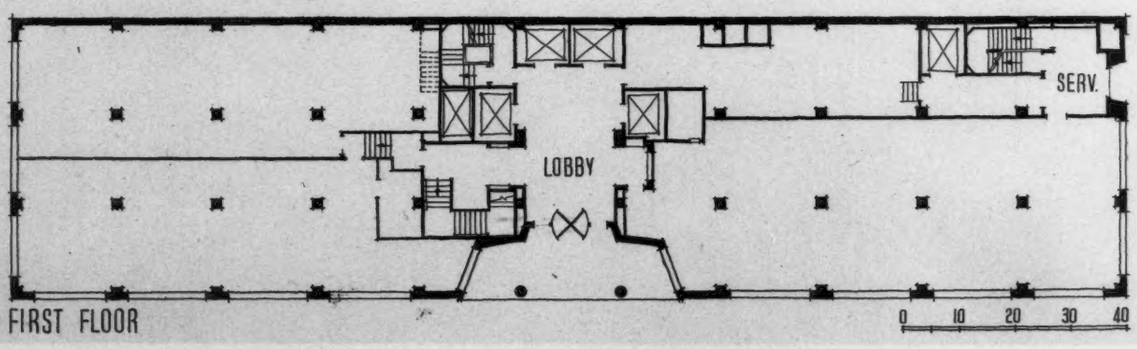


extreme temperature differentials between outside wall and furring frequently result in strain cracks. Plaster furring and ceilings have been protected by metal beaded joints, to permit contraction and expansion and shearing of planes without unsightly diagonal cracks.

It is interesting to note that the increased stature of the life insurance company, by virtue of this building, has already been reflected in sales.




TYPICAL FLOOR




FIRST FLOOR

*Seventeenth (penthouse) floor has offices for executives of the life insurance company. Unpartitioned office view, below, shows modular units of windows, air conditioner, lighting on 9-ft centers so that partitions can be put anywhere without alterations*





Photo Associates: Ulric Meisel Photos





Aero Photo Surveys



Aero Photo Surveys

*Terminal facilities for the Oahu Transport Co., Ltd., Sand Access Road, Kalihi Kai, Honolulu, T.H. Law & Wilson, Architects-Engineers*

THE busy trucking terminal shown above could be that of any major port in the world. Its facilities are grouped for maximum efficiency and for minimum interference with ordinary city traffic. Quite obviously, it is a part of modern city planning — but there is nothing about it to indicate that it serves the glamourous mid-Pacific city of Honolulu. In that respect it is a perfect example of contemporary architecture in Hawaii.

Hawaii's architecture today is basically that of the continental United States. The mild climate, the magnificent scenery, and the difficulty of obtaining certain building materials all have their effect on design, but the planning itself is intrinsically the same.

This two-part study of architecture in the Islands has been prepared with the collaboration of the Hawaii Chapter of the American Institute of Architects. It has been planned to show as many and as varied examples as possible of the work of the Chapter's 42 members. It is, quite simply, a panorama — a glimpse of what the profession is doing far out in the Pacific. Later issues of ARCHITECTURAL RECORD will present in detail some of the buildings shown sketchily here, and others omitted in this study because of space limitations.

# ARCHITECTURE IN HAWAII

## PART II

*Prepared in collaboration with*

THE HAWAII CHAPTER

AMERICAN INSTITUTE OF ARCHITECTS

# TERMINAL FOR OAHU TRANSPORT CO., LTD., H

*Law & Wilson, Architects, Engineers, Surveyors*



THE Oahu Transport Company's new terminal was designed chiefly for the handling of pineapples and sugar. Covering more than 15 acres of reclaimed land, it provides warehouses, shops, offices, recreation and locker rooms, machine shop, service station, etc.

The office and locker buildings stretch across the front of the lot, with the main entrance to the terminal between them (center in photo below). Warehouses, and truck maintenance facilities are to the rear, adjoining the large truck and trailer parking area.

R. Wenkam photos





# HONOLULU

Foundation—Concrete

Framing—Steel

Exterior walls—Poured concrete

Interior walls—Exposed concrete; plaster and metal lath

Roof—5 ply built-up and gravel

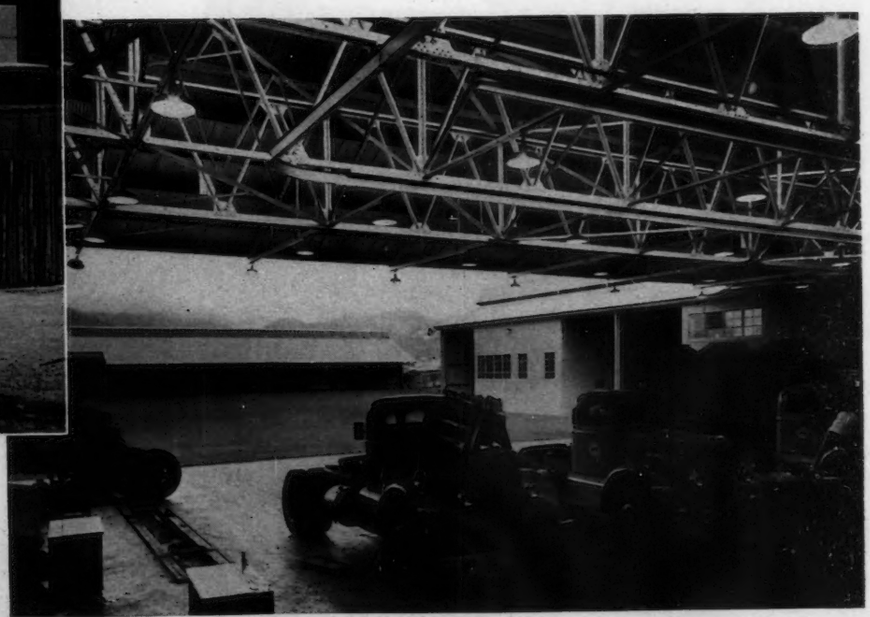
Floors—Concrete, waxed

Ceilings—Exposed concrete





*Large sign panel draws the visitor directly to main entrance of office building. Beyond it are personnel department, supervisors' offices, and, at far end of building, overlooking entrance driveway, dispatcher's office. Below: the centrally located shop building*



# MEDICAL ARTS BUILDING, HONOLULU





R. Wenkam photos

*Kawahara Nursery & Landscaping Co., Landscaping*



SITUATED about a mile from traffic-congested downtown Honolulu, this Medical Arts Building is occupied by 10 doctors, each a specialist in his own branch of medicine. Each has his own suite of offices, with direct access from the 45-car parking area at the rear. Four of the suites are on the first floor (plan opposite), and five are on the second floor. The x-ray suite, laboratories, and two minor operating rooms are on the basement level.

The building is painted a soft gray-green throughout except for the eave soffits and lanai ceilings, which are a dark blue-green. The elevator penthouse enclosure is of copper louvers. Cream colored veined marble faces the free-standing columns on the front and is used also on the solid walls enclosing the main stairwell. Interior walls and ceilings are painted in tans, greens and grays.

*Kenji Onodera, Architect*

*Dr. Richard Y. Sakimoto, Owner*





Foundation—Concrete

Framing—Concrete

Exterior walls—Structural tile, plastered and painted

Interior walls—Plaster, painted

Roof—5-ply felt, pitch and gravel

Interior partitions—Plaster on metal lath on channel studs

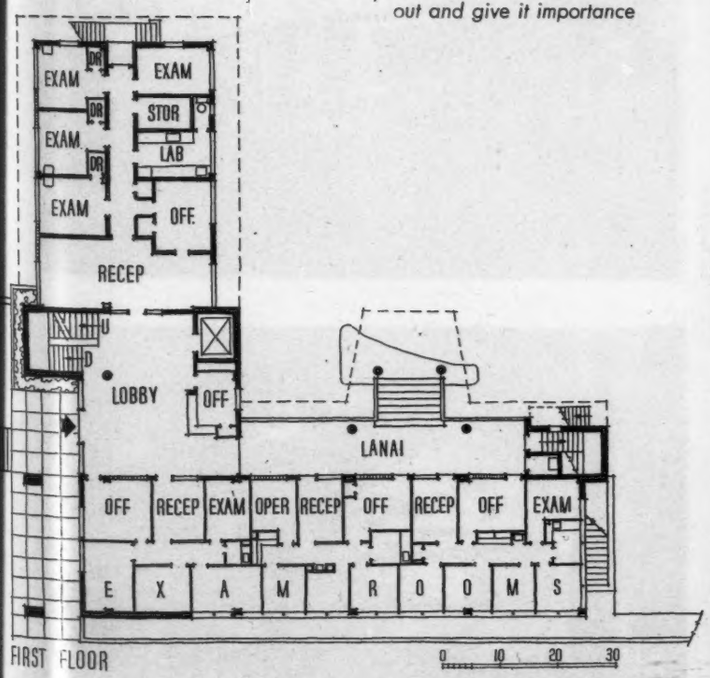
Floors—Concrete

Ceilings—Acoustic plaster

Sash—Steel

Entrance doors—Aluminum

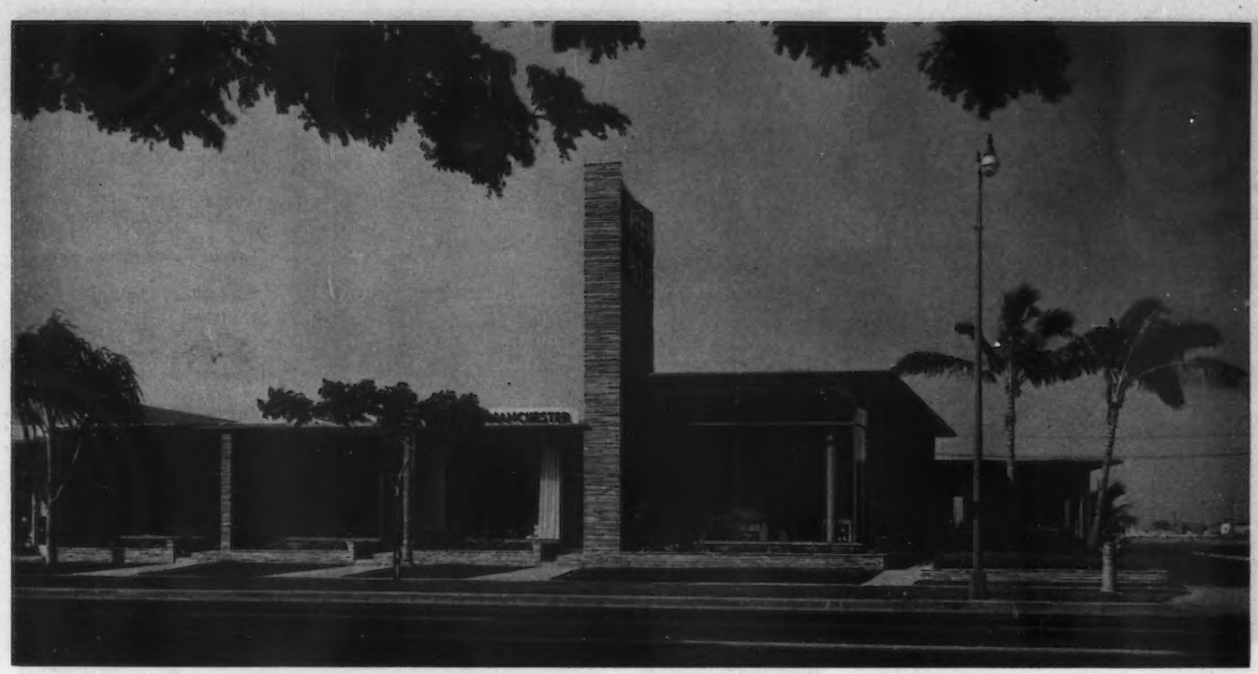
*Building's real "front door" is at the rear, facing the parking area. Broad stairs and a cantilevered porte cochere mark it out and give it importance*








# WALTER N. BOYSEN CO. (HAWAII), LTD.



R. Wenkam Photo

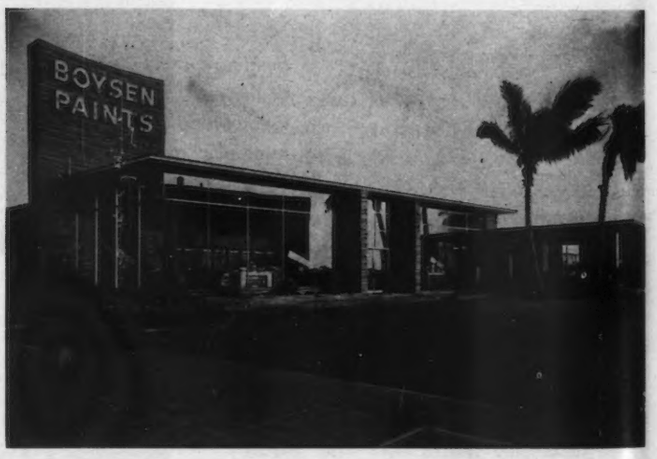
*Cyril W. Lemmon, Architect*

*Douglas Freeth, Associate*

*Lo & Katavolos, Engineers*

*Wilbert Choy's Makiki Nursery, Landscape Architects*

THE Boysen Company's Honolulu building was planned not merely as a local outlet store, but as division headquarters for the Pacific trade. Provision had to be made, therefore, for easy space expansion as required. The solution was this one-story building consisting of five stores and a warehouse; three of the stores are "in reserve," and will be leased to other firms until such time as the owning company needs more space.




Ben Pang Photo

Foundation — Concrete piles

Framing — Reinforced concrete

Exterior walls — Sandstone

Interior walls — Plaster

Interior partitions — Hollow tile

Floors — Flagstone

Ceilings — Concrete

Sash — Steel

Store fronts — Bronze



Billy Howell Photo

# SEARS, ROEBUCK & CO., HONOLULU



Ben Pang Photos



*Guy N. Rothwell, Architect*

*Edmund C. Abrams, Associate*

IN appearance a two-story building, this Honolulu store has three selling levels and a total of about 200,000 ft of floor space. It was pushed a full story underground to keep it in scale with its contemporary neighbors.

Truck ramp and freight entrance are on the principal street front (left). Off-street parking areas can accommodate 500 cars.



Foundation — Reinforced concrete

Framing — Reinforced concrete

Exterior walls — Reinforced concrete, plastered

Interior walls — Plaster

Roof — 5-ply asphalt and felt

Floors — Reinforced concrete

Ceilings — Metal lath and plaster

# MC CULLY SQUARE BUILDING, HONOLULU

*Wimberly and Cook, Architects* — *R. E. Welton, Owner*

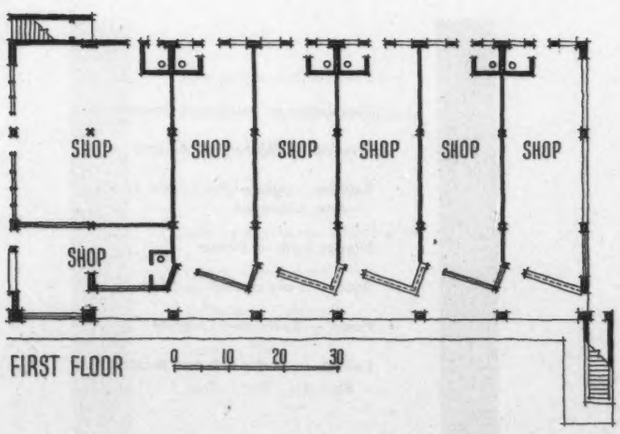
ONE of the outstanding characteristics of Honolulu's newer business buildings is the almost universal provision for off-street parking. Wherever possible, the parking area is accessible from two streets; almost invariably it serves as the main approach to the building it serves.

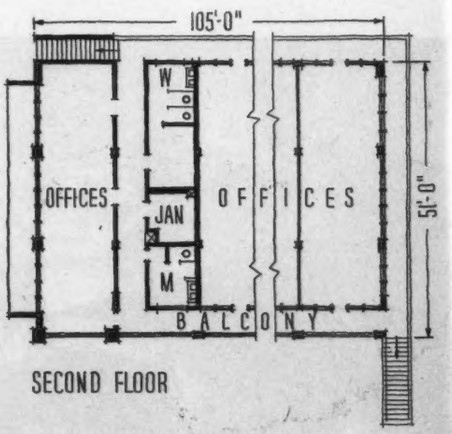
This office and store building on the fringe of the Waikiki business section was planned for rental. Like most of its contemporaries, it is two stories in height and fronts on a generous parking area. Shops occupy the lower floor, offices the upper. As is not uncommon in the Islands, there are no interior halls; each shop has its own entrance, and the office suites above are reached by stairs leading directly to the balcony corridor which connects them. The balcony extends out over the angled show windows of the shops to shield them from the sun's glare; the balcony roof does a similar service for the office windows on the second floor. Louvers above and below the windows provide the essential air circulation.





*To avoid the frequently displeasing effect of many-sized signs, the architects provided a sign strip running the full length of each level*



Foundation — Concrete

Framing — Concrete and wood

Exterior walls — Concrete and concrete block, painted

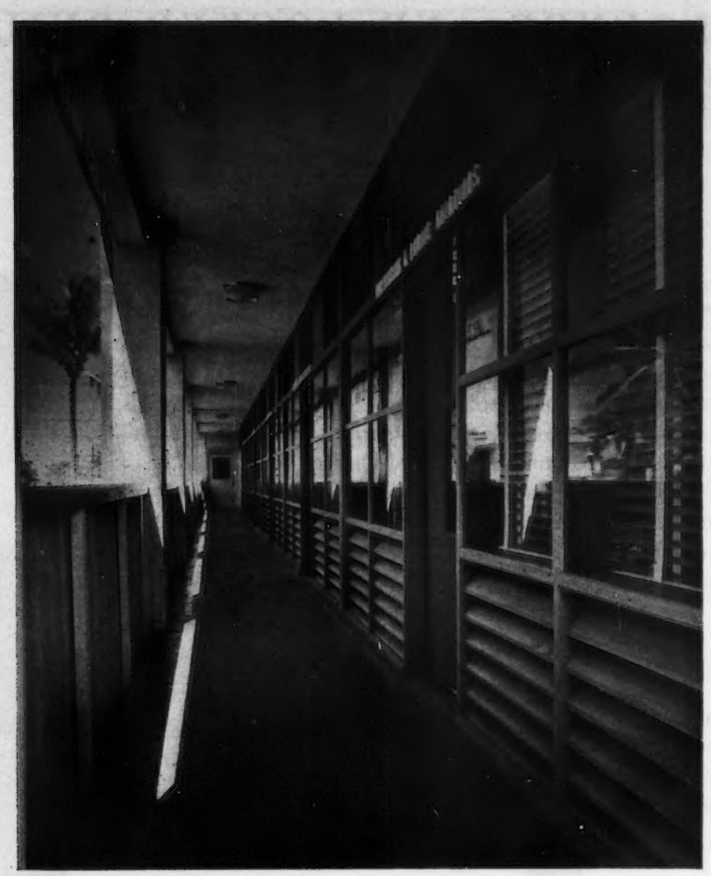
Interior walls — Plaster, painted

Roof — Built-up

Floors — Wood

Ceilings — Plaster

Sash — Wood





R. Wenkam Photos





# LOUNGE AND LOCKER BUILDING, PEARL HARBOR

*Public Works Office, Navy Yard, Pearl Harbor, T. H.*

*J. B. A. Van Oort, Department Head Architect*

*Tom Litaker, Job Captain Architect*

THIS Lounge and Locker Building in the Navy Yard at Pearl Harbor was designed and built during World War II as an annex to the existing Pearl Harbor Officers Club. Because of wartime material shortages, it is of all-wood construction, using as few critical materials as possible. Special features permitted by the climate include continuous fixed wood louvers (very popular in the Islands during the war because of blackout restrictions), screened openings and folding doors for the control of air circulation on the trade wind side.

Foundation — Concrete

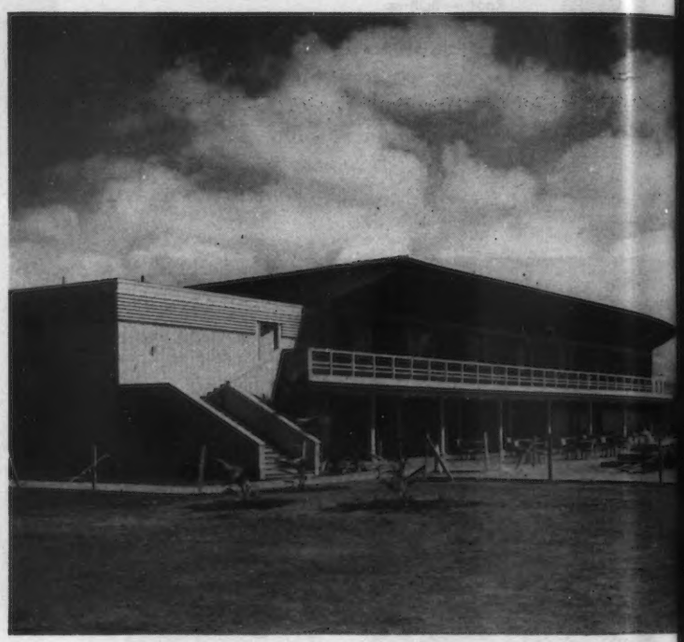
Framing — Wood

Exterior walls — Wood, painted

Interior walls — Plywood, wiped

Roof — Built-up tar and gravel

Floors — Concrete (first); hardwood (second)



Official U. S. Navy Photo

# AUDITORIUM, JOHN H. WILSON PLAYGROUND

THE roofline of this playground auditorium has a definitely Oriental air about it, but it was designed with sheer practicality in mind: its long, overhanging eaves give maximum protection from sun and rain.

The building is situated on a hillside overlooking the city of Honolulu, and is in the center of an area which is used entirely by Hawaiian homesteaders. It contains no windows whatever: wooden jalousies were used throughout to minimize destruction by the children and to give the maximum amount of light and ventilation.

Foundation — Concrete

Framing — Douglas Fir

Exterior walls — Redwood

Interior walls — Redwood

Roof — Wood shingles

Interior partitions — Redwood

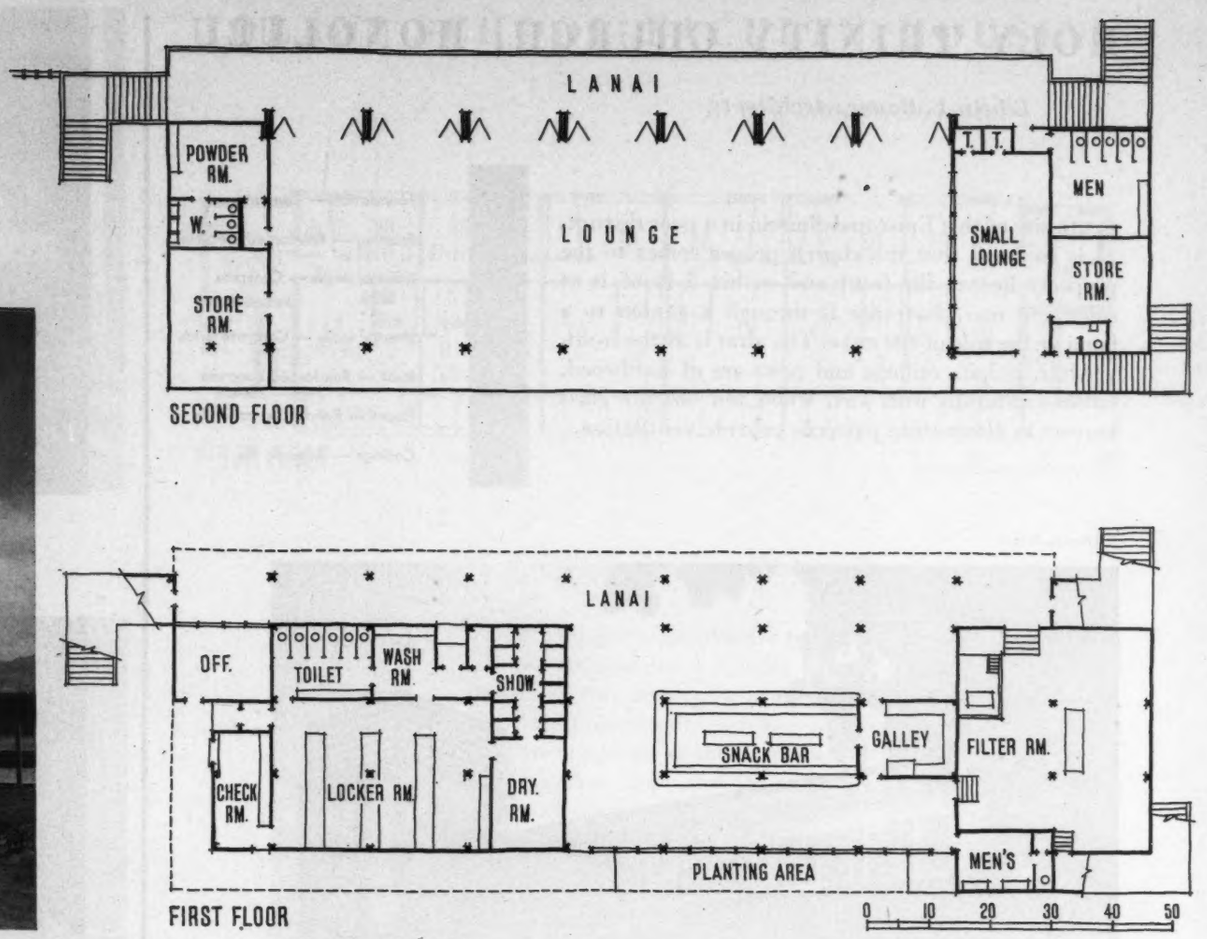
Floors — Wood

Ceilings — Redwood

R. Wen'kam Photo








*Ernest H. Hara, Architect*

*Yoshio Kunimoto, Structural Engineer*





# HOLY TRINITY CHURCH, HONOLULU

*Edwin L. Bauer, Architect*

THE site of this Episcopal church, in a poor district, is so small that the church proper comes to the property line at the front and within 5 ft of it at sides and rear. Entrance is through a garden to a lanai at the side of the nave. The altar is at the front.

Altar, pulpit, railings and pews are of hardwood, finished naturally with wax. Wood and obscure glass louvers in alternating patterns provide ventilation.

Foundation — Concrete

Framing — Reinforced concrete

Exterior walls — Concrete brick

Interior walls — Concrete brick

Roof — Reinforced concrete

Floors — Reinforced concrete

Ceilings — Acoustic tile

R. Wenkam Photos







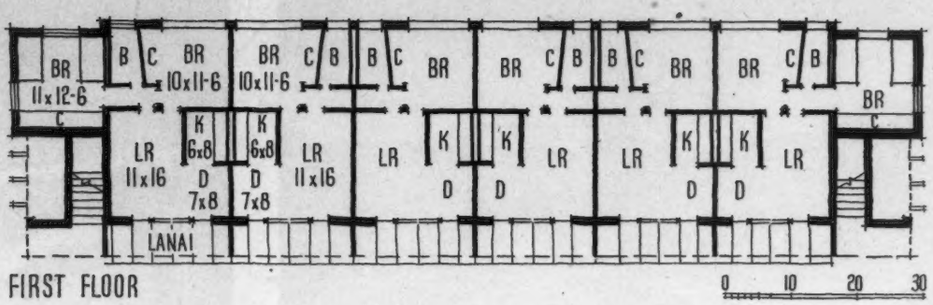






# IOLANI SCHOOL FACULTY HOUSING

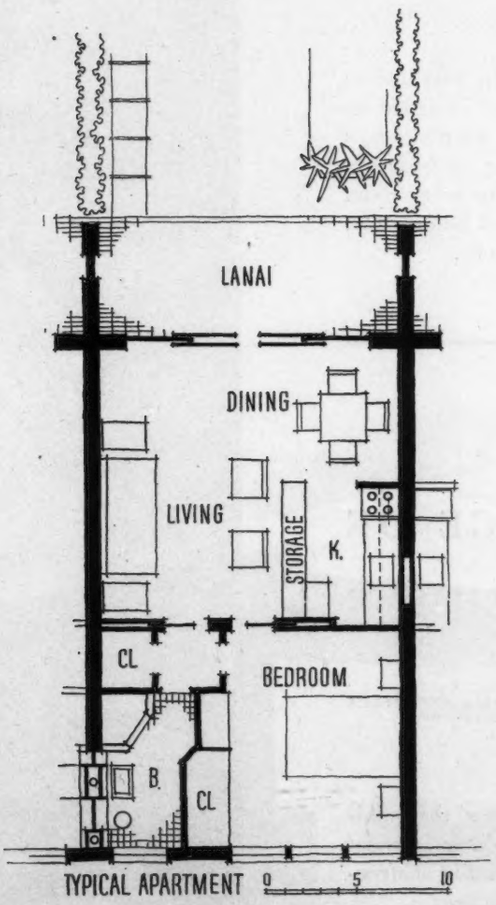
*R. E. Windisch, Architect*






THE two-story corridorless building popular in the Islands for business use is equally adaptable for residential purposes, as this faculty housing project for the Iolani School for Boys proves quite conclusively. The building contains 12 apartments, three of them two-bedroom "family" units. Each has its own lanai and its own individual entrance. Each also has a kitchen, complete with stainless steel sink, electric stove and refrigerator, and ample storage space.






Foundation — Reinforced concrete on cast-in-place concrete piles

Framing — Reinforced concrete

Exterior walls — Stucco

Interior walls — Plaster

Roof — Built-up asphalt and gravel

Floors — Reinforced concrete

Ceilings — Plaster on slab

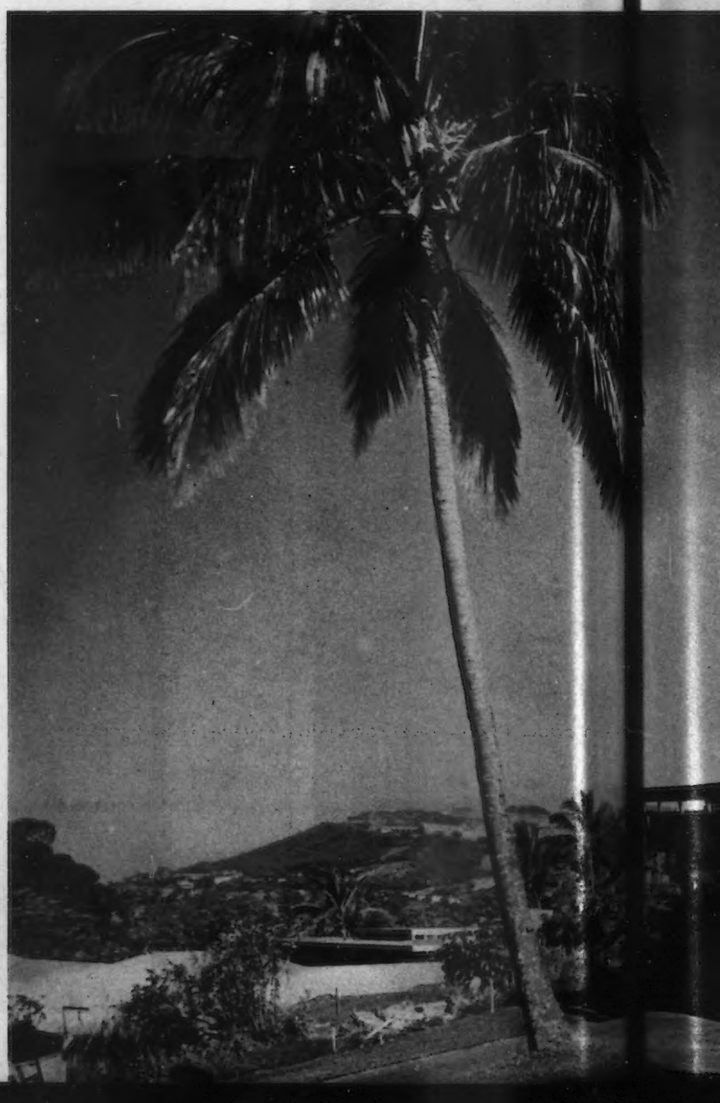
## RESIDENCE OF MRS. ALICE C. LENNING ONO





*Ives & Hogan, Architects*

LIKE most of the houses in the Islands, this one in Manoa Valley is simple in plan and designed to make the most of climate and view. Its steep site was used to good advantage in the placing of bedroom wing on a lower level to bring the view to every room in the house. Foundation is timber and hollow tile; framing is 2 by 4 studs; exterior walls are fir.



## RESIDENCE OF MILDON A. PIETSCHMAN

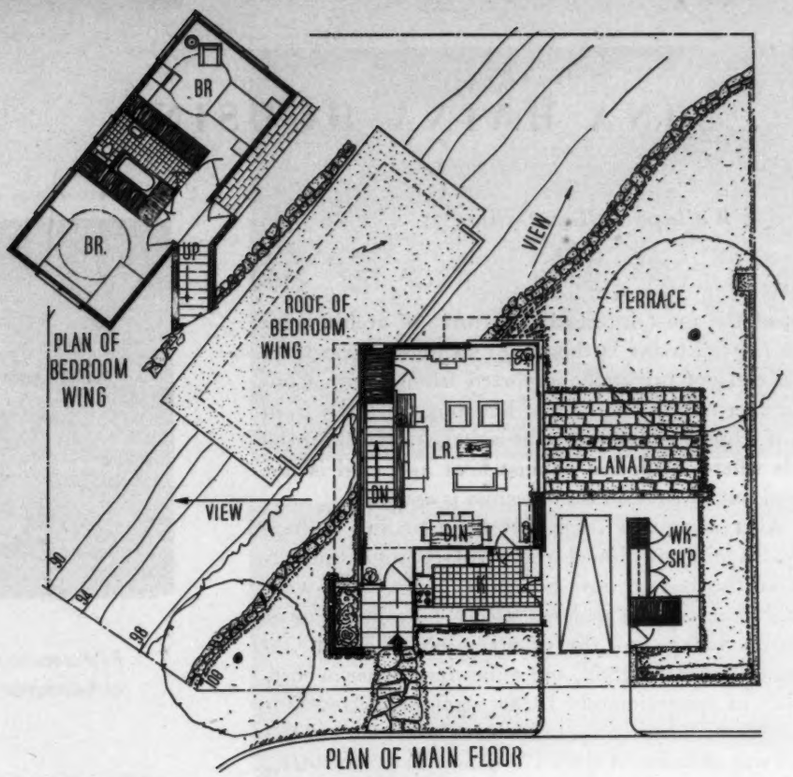
*Richard N. Dennis, Architect*

THE Pietschman residence, right, is one of the buildings to be presented in detail in a later issue of ARCHITECTURAL RECORD. It is of single-wall construction, on cement block foundation.

ING ONOLULU



R. Wenkam Photos






# AINA HAINA HOUSING

***Wailupe Valley, Oahu***

ONE of the most interesting features of architecture in Hawaii today is the use of single-wall construction, a concept originally imported from Japan. Consisting of a unique method of hanging the walls from the roof (construction photos at right), it is ideal for the Islands where insulation against heat and cold is not required but protection from vermin is essential.

At Aina Haina, a large development in Wailupe Valley, 20 minutes from downtown Honolulu, the majority of the houses now being built are single-wall. Original plans for the project called for development of the entire valley and the construction of about 700 homes, architect-designed, and somewhat higher in cost, with lots of approximately 10,000 sq ft each. Development costs were higher than expected, however, and the project was abandoned after 175 houses had been built. It has since been reactivated on a limited basis, with lower-cost homes.

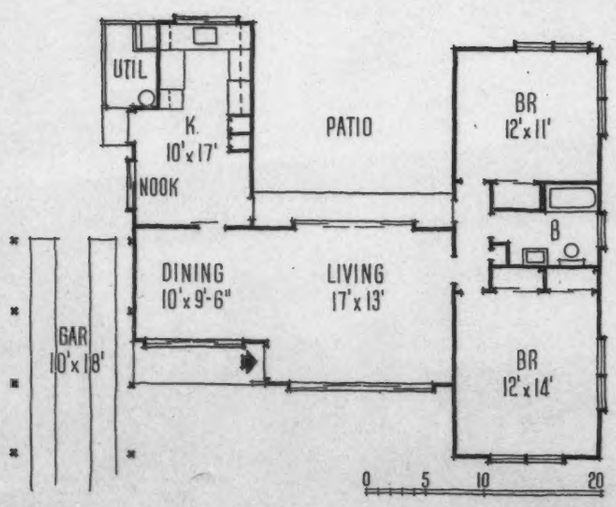


*First step in single-wall construction, following laying of foundation, is erection of temporary bracing for roof*



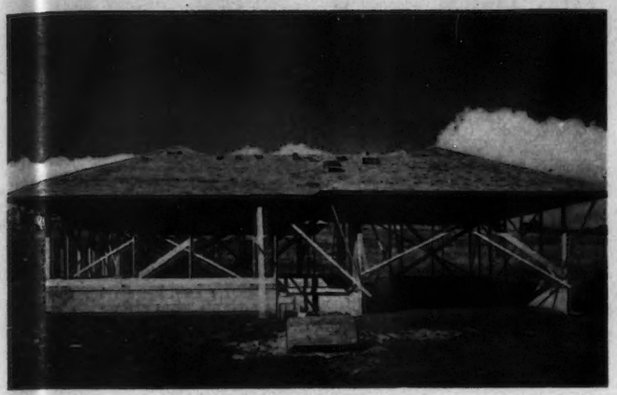
*Temporary bracing is removed once walls are completed, and house is ready for installation of sash*






*Development started under direction of American Lumber Co., Ltd., Builder; Austin and Towill, Civil Engineering and Subdivision. Various architects designed the houses. Present operation is under the auspices of the recently formed Ernie Nowell Construction Co.*

R. Wenkam Photos



*When roof is in place the house is ready for its walls, which are hung from it and anchored top and bottom*





*Among the 72 homes now under contract at Aina Haina some are of tile construction, also very popular in Hawaii. These, like the single-wall house at left, are lower in cost than the first buildings erected* *(page 130)*



*Finished house is conventional in appearance, but is ideally suited to semi-tropical conditions of the Islands*




*Right: Aina Haina market; R. E. Windisch, Architect. When completed, the project is expected to have 19 stores, a theater, service station, school, church*

## AINA HAINA





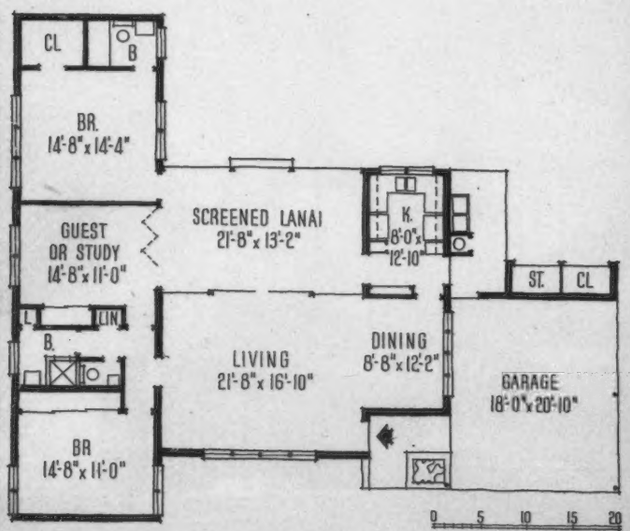
R Wenkam Photos

*Stock-plan House*

*Wimberly and Cook, Architects*

UNDER the original scheme for Aina Haina the owners selected stock plans, drawn by various architects, and contracted for construction on an individual basis. The project was closed down before the effect of mass production savings could be fully realized.

The house shown here was one of those built under the original plan. It has many features typical of the Islands: louvers for ventilation, sliding glass doors leading to the lanai, and sun control devices forming an integral part of the design.






# A HOUSE IS A HOUSE IS A HOUSE



*"In literature, I would say that style is the preoccupation of those who have nothing to say. Whether that is true of architecture I do not know."*[1]

*"Colonial Williamsburg's small houses . . . not much different from those now being built . . . were practical, asymmetrical, full of corner cupboards and corner fireplaces, and had gadgets to help make the most of limited space."*[2]

*"During the past half-century, our progress in home sanitation, in heating and ventilation, in improved household equipment, has been revolutionary. In that same period, however, we have been retrogressing in space provisions to an almost equally phenomenal extent. Normal and happy and fruitful family life is possible without modern plumbing and deep-freeze equipment. It is not possible without a reasonable modicum of space."*[3]

THE authors of these statements, all highly respected individuals with more than superficial acquaintance with architecture, were not talking idly. Each was seriously making his own attack on today's work. What is their justification?

If, forgetting that you're an architect and taking a somewhat detached viewpoint, you can dispassionately examine an average, good, contemporary house — as a scientist might, for instance, examine a mole's burrow to ascertain its habits and appearance — you can reach some ludicrous conclusions. Charles Agle, New York architect and member of the firm of Harrison, Ballard and Allen, did.[4]

Let's start with the American bathroom, conceded to be an index of the highest material standard of living ever achieved by man. Judging by the height of a lavatory, our dispassionate investigator could logically assume that the American adult stood 4½ ft tall; by the traditional position of the mirror, that the user's physiognomy projected at least 14 in. beyond his torso. (How could he imagine the calisthenics, the balancing, involved in plucking an eyebrow or washing the last of the shaving soap out of one's ears?) Then, turning to the toilet seat, he would find that set at a height ideally suited to the functions of an individual 7 ft tall. Again, the tub must be for a four-footer, unless — but this could never be! — the seven-footer were to wrap his knees about his ears. And, ah, yes! Since soap, water and smooth surfaces are almost lethally slippery, the four- or seven-footer must be shod with suction cups.

The laundry would disclose further contradictions. "A remarkably ingenious creature," the scientist might murmur on beholding the automatic laundry machine. "Remarkably equipped, too; or perhaps only the female has the integral lift-truck, rubber-tired wheels and motor required to carry bulky sheets, heavy towels and dirty clothes so far. Yes, such a mechanically developed physique can be the only reason for locating the washer so far from the places where most laundry originates. We know from their factories that these beings understand the rudiments



Robert C. Cleveland Photo

---

[1] *I. C. Perrot, British journalist, speaking of twenty years at the press tables of the Architectural Association and the R. I. B. A., as quoted in the October 1950* Journal *of the A. I. A.*

[2] *Frederick Gutheim, author, architectural editor and critic, in the* N. Y. Herald Tribune, *March 5, 1950.*

[3] *C.-E. A. Winslow, Chairman, Committee on the Hygiene of Housing, in the foreword to the Committee's recent publication,* Planning the Home for Occupancy.

[4] *In recent articles in the* N. Y. Times, *and in an address before the N. Y. Chapter, A. I. A.*

of efficient production flow." (Efficiency! Should houses be efficient?)

Viewing the streamlined kitchen counter with its built-in sink, and considering that its *bottom*, 8 in. below counter level, is the sink's working plane, the investigator would be justified in assuming the user to be fairly short, but with abnormally long arms. This assumption would be reinforced by the position and depth of the conventional base cabinet, and contradicted by the heights of counters and upper wall cabinets.

Lionel Freedman: Pictor



Ludicrous as these assumptions appear, they could all be made with reason. If, as so many architects believe, their profession is responsible at base for all or nearly all the improvements in equipment evident when today's house is compared to yesterday's, does not the fault lie with architects? To take one example, one hears architects stating that originally the architect demanded for the bathroom surfaces which could easily be cleaned, which would withstand moist atmosphere. American ingenuity and productive capacity have now provided him with ceramics, plastics, metals and glass in profuse variety. There is nothing wrong with these materials, nor with the ingenuity and industry which produce them. Yet in embracing them wholeheartedly architects, including many top-flight practitioners, produce what our insurance companies tell us is a prime source of injury and death — this in a home, which by implicit definition should be a safe haven.

No, it is not the material or the equipment, generally speaking, which is so much at fault; it is the manner of use in relation to the prevailing conditions. This holds even for equipment which is job-assembled or job-built, too. Every household needs storage space for cleaning materials; but why, in any modern house, must the cleaning closet, where are kept the dirtiest household impedimenta, be located in the kitchen where the food we eat is prepared? Why cannot the laundry be placed close to bedrooms and baths, perhaps with sewing and storage facilities directly at hand, to minimize this heaviest household chore?

House design is an endless series of problems in the organization of space and equipment, among other things. If we have accepted marvels of equipment without thoroughly investigating them, without thoroughly integrating them into the whole that the house should be, we have even further cramped the small spaces into which, we are reliably told, we now unwisely cramp our domestic life. We have progressed little in understanding beyond the builders of Colonial Williamsburg's houses, which were designed by builders, not by architects.

One can carry this identical argument into other facets of house design. Take the matter of style, with which the opening quotation is concerned.



George Stille Photo

The architect indolent enough to produce an unthought-out version of "Colonial" and label it a house is guilty not only because modern equipment, materials and techniques seldom do more than cramp his style; it is much more important that the routine of domestic life has changed, and his architectural solution hampers that. We do live outdoors much of the time. And with an appreciation of nature, the desire for verdure and blossom all year leads naturally to inclusion of space for growing plants within our houses. We do have automobiles, and the garage entrance of the house on the suburban fringe is fast supplanting the old-fashioned front door as an entrance. We have fewer servants, and the housewife does more — or all — of her own work. Our guests penetrate our kitchens to help mix cocktails.

Not that there isn't a place for the honest antiquarian; our true architectural past sadly needs preservation. It is the insincere copy which trades upon the snob appeal of romantically secure past glory that bothers. Also a bother, and equally snobbish when you come to think about it, is grotesque, slavish imitation of a Mondrian or a Picasso in architecture. The architect of a house need not strain to ape the cubist, for he was a cubist long before the painter appropriated his idiom. What is a room, a bookcase or a building but a series of problems in three-dimensional geometry?

— *Frank G. Lopez*

Lionel Freeman: Pictor





Pirkle Jones Photo



*Facing page, eyebrow to keep high sun off a glass wall which both admits a fine view and provides a hazard for junior on his tricycle; far left, two-compartment bath; center, kitchen and dining space separated only by a cabinet (all three by The Architects Collaborative). Right, modern version of the hob seat plus masonry with scarcely visible support (V. K. Thompson, Designer)*

# HOUSE IN ANDOVER, MASSACHUSETTS

***Bernard Kessler, Architect***

Joseph Molitor Photo



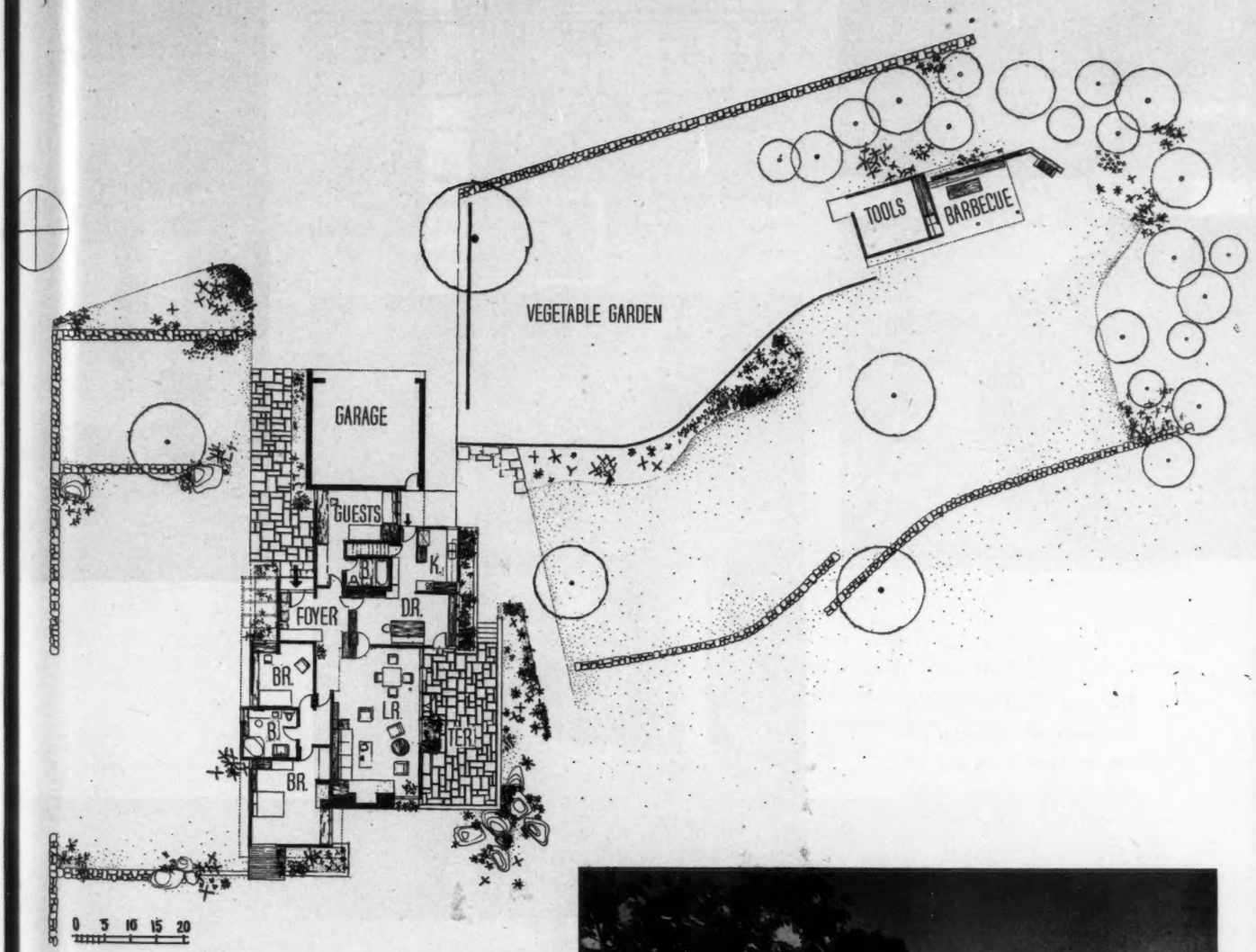
## HOUSE IN ANDOVER, MASS.

THE owners, a couple in middle years, live alone and entertain informally and in small groups composed principally of their children. They insisted on having their bedrooms off the ground; hence the placement of the house on the sloping

Joseph Molitor Photos



site, with bedrooms five to eight feet above grade. The isolated bedroom with its own interior bath (artificially ventilated) is used for a servant or for guest quarters. The kitchen-dining area, quite unusual and yet extremely sensible for this informal household, is designed to permit husband and wife to share in preparing and serving family meals; both are good cooks. At the same time, a partial wall screens as much as possible of the work area, with its stacked pots, pans, dishes, etc. The ease with which after-meal mess can be closed off from the remainder of the house, and the simplicity with which such a compact space can be cleaned up, should be apparent. The same logic has been applied to the entire house, together with a not inconsiderable talent for assembling the required elements pleasantly. In harmony with its natural setting and thoroughly contemporary, this is a house in which it should be fun, not work, to live.

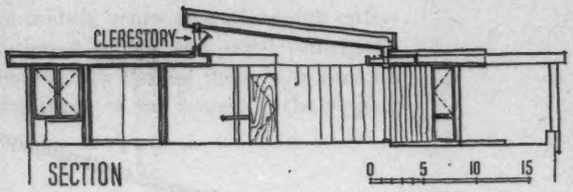





*Beneath bedroom-living room end is, besides service space (heater, etc.), a large playroom where grandchildren can romp in poor weather while parents and grandparents visit on the first floor. Terrace, right, is shaded by a grape arbor which in winter, when leaves are fallen, admits plenty of sun to the living room. The deceptively simple landscaping both ties the house to its setting and opens to embrace a view, from the terrace, across a wooded valley*








*Clerestory above interior corner of living room admits light, ventilates, forms a plant shelf which, continued around two sides of the room, becomes an indirect lighting trough. Ceiling is higher in living room than in other rooms*





*The same materials, common brick and vertical cedar siding, are used inside and out, with addition of some plaster on interior walls and ceilings. Everything is thoroughly up-to-date: heating is radiant panel with copper tubing in ceilings; most lighting fixtures are indirect or recessed; there is much built-in furniture; the flat portions of the roof are designed to be flooded for roof-cooling in hot summer weather. As in most outlying houses, entrance through the garage is at least as important as the formal "front" door (photo above), which is almost hidden. It is noteworthy that traditional furnishings fit into the house well*







*Despite the numerous refinements in this house, it is in spirit far from the modern showcase which so intrigues many architects. Rather, appropriate contemporary ideas and equipment have been adapted and blended in a way which neither denies that the oc-*

Joseph Molitor Photos





*cupants have roots, nor over-emphasizes them. The house, though it is no cottage, has domestic, human scale brought into sharp focus at the indoor barbecue (above) where the master can broil meat while his wife, with cooking muss out of sight around a corner, prepares the rest of the meal. That the house has also a friendly dignity is a compliment to both the owners and the architect*

# HOUSE FOR DR. MARY G. HAMILTON, SA

*Victor King Thompson*

*Designer*



THE owner, a college professor and single, had some definite requirements. She wished to house a small collection of Oriental painting and ceramics and a large library, to do a limited amount of craft work at home, and to retain the original character of the site, which is dotted with large toyon bushes and a few small oaks in clumps. The house was planned to fit between the clumps — none were destroyed — and grading was held to the absolute minimum. Inside, the house was freely organized; all the convenience of the usual room divisions was maintained, but there is not the conventional segregation of spaces. The designer exploited the program fully, adopting the butterfly roof which, less appropriately used, becomes an unassimilated cliche; here its justification is the view, which a flat or gabled roof would have cut off. The house has radiant heating in the floor slab, and has masonry wall areas of buff-colored concrete block, unpainted, between which are modular wood-framed walls.

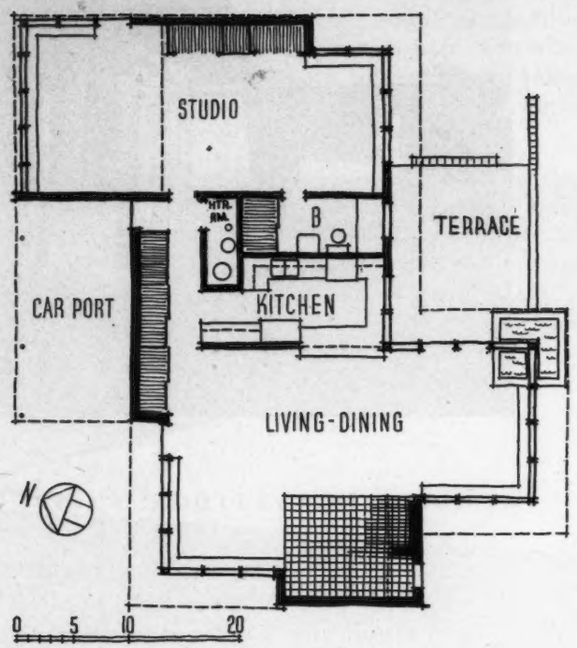
Pirkle Jones Photos

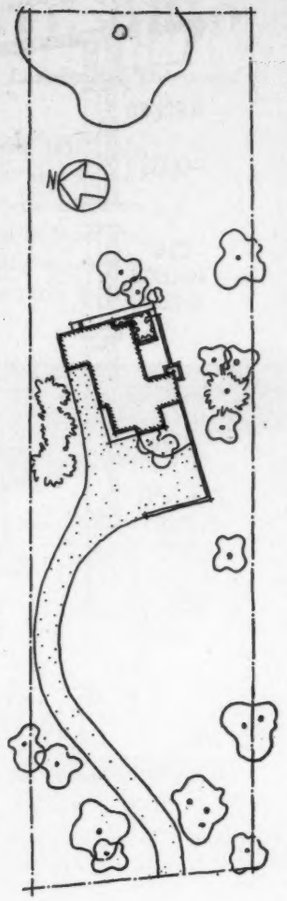




## N, SARATOGA, CALIF.

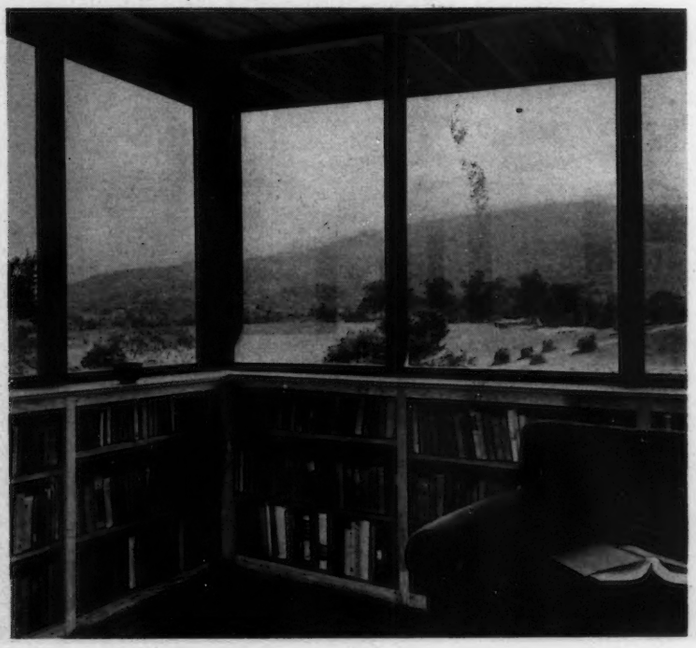


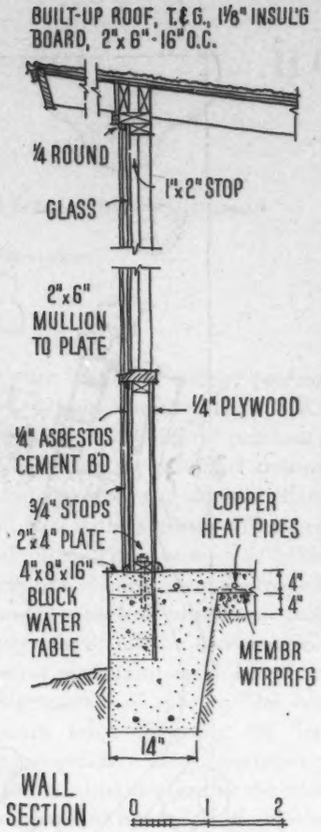



*Site, more than two acres on a knoll in the Saratoga foothills, offered excellent views in nearly all directions; hence the glazed walls. Shelves beneath nearly all windows provide for the owner's 2000 books. Terrace pool to attract birds; openings in footings permit water and fish to circulate between indoor and outdoor pools. The solid-walled area surrounding the hearth provides a retreat from the overpowering view*










**HOUSE IN SARATOGA, CALIF.**

*Construction module is 3 ft 4 in. in both directions, to fit concrete block and provide 2 by 6 in. redwood mullions in frame walls at intervals close enough to avoid heavy lintels. Eating bar (below) separates kitchen from living space, can be closed off completely by rolling bamboo shade*

Pirkle Jones Photos

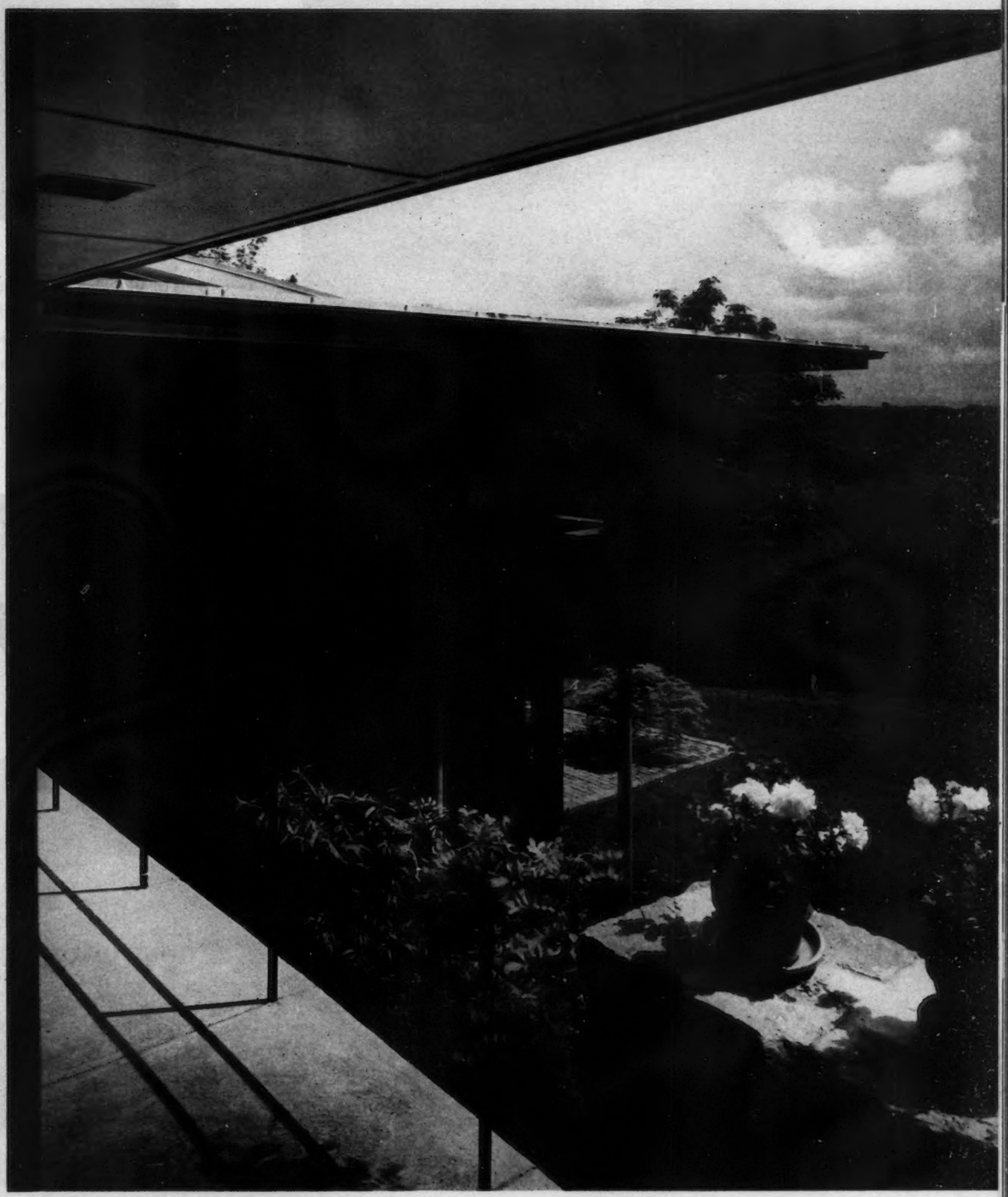


# ARCHITECT'S OWN HOUSE, CINCINNATI, OHIO

*Carl A. Strauss, Architect* — *John F. Kirkpatrick, Landscape Designer*

FULL utilization of the fairly steep site overlooking the Ohio River and city beyond, and ease of maintenance and housekeeping for a family consisting of the architect, his wife and two sons, were the design criteria here. Access to the site is from the upper level, so carport, entry walk and principal entrance are on the upper level along with bedrooms; living room, etc., are below.

Hedrich-Blessing Photo







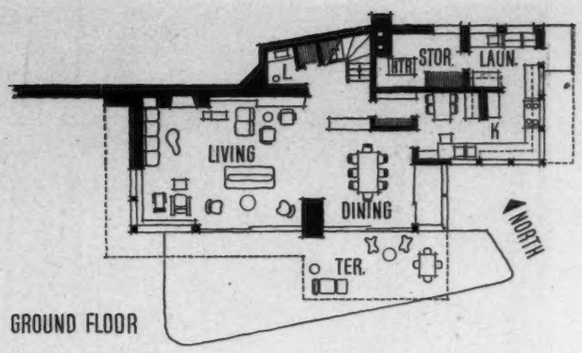
*Left, living-dining room, at ground level, has paving-brick floor extended outdoors. Though sliding walls are not screened, direction of prevailing breeze and an infrequent spraying with insecticide almost eliminate insects; the family's pleasure in easy outdoor-indoor access outweighs the nuisance of the occasional stray bug or dog. Above, second-floor entry*

Hedrich-Blessing Photos

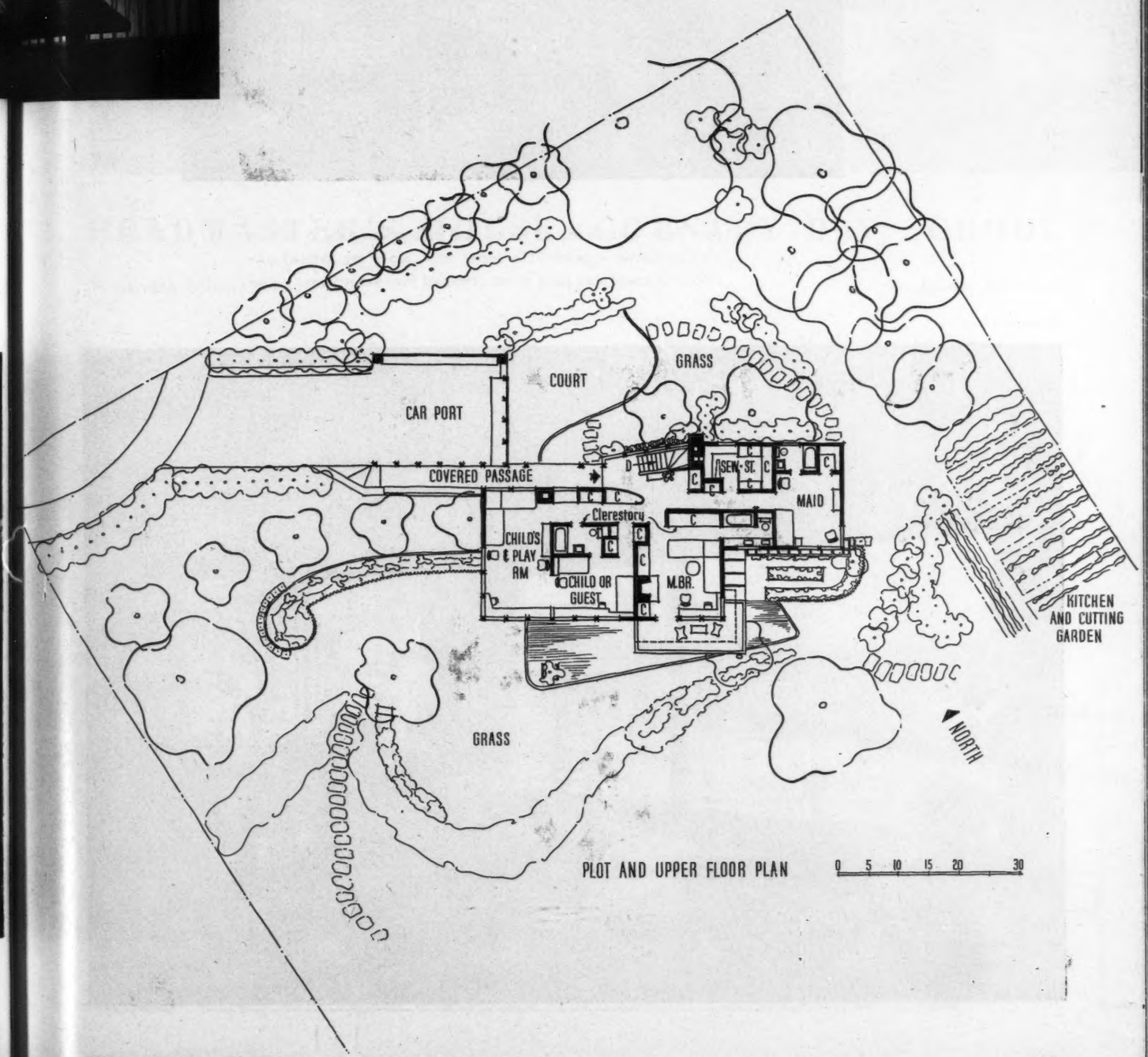


*Like every detail of construction and finish of the house, planting is laid out for ease of upkeep*






GROUND FLOOR




PLOT AND UPPER FLOOR PLAN

0 5 10 15 20 30

## HOUSE IN CINCINNATI, OHIO

Hedrich-Blessing Photo



*Boys have two bedrooms which can be separated by a folding wall or thrown together. On upper floor, walls are striated plywood; on lower floor some stone, obtained from excavation, is used*

George Stille Photo



Piaget Studio photo



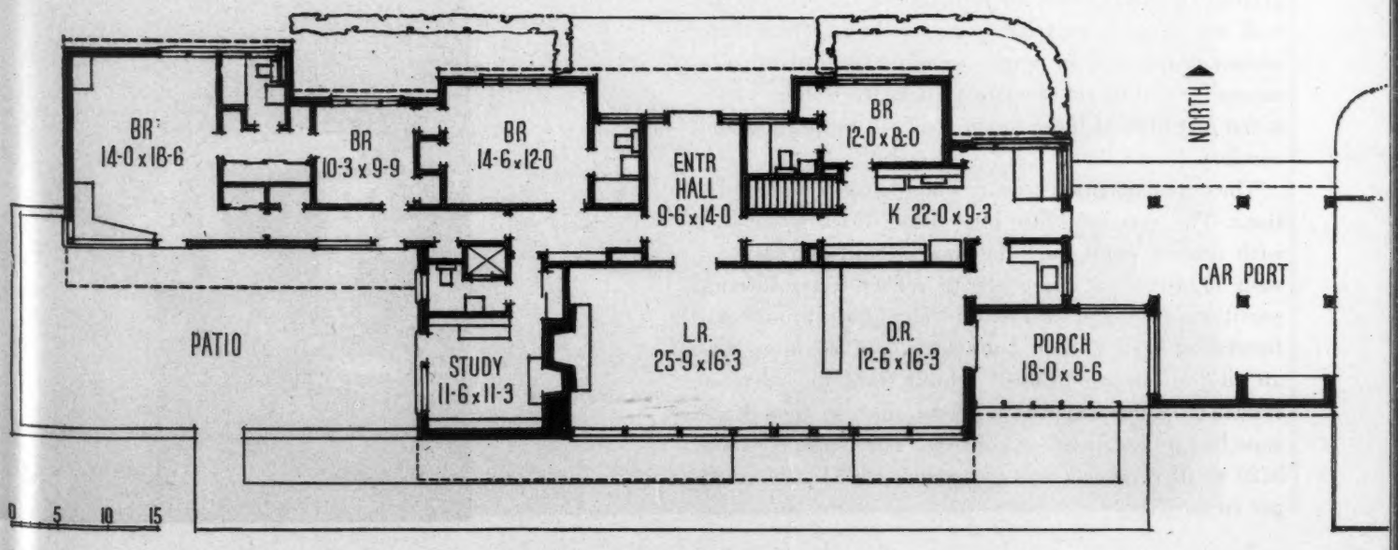
# HEADMASTER'S HOUSE, COUNTRY DAY SCHOOL

*Frederick Dunn, Architect* — *St. Louis, Missouri*

*John D. Falvey, Mechanical Engineer*

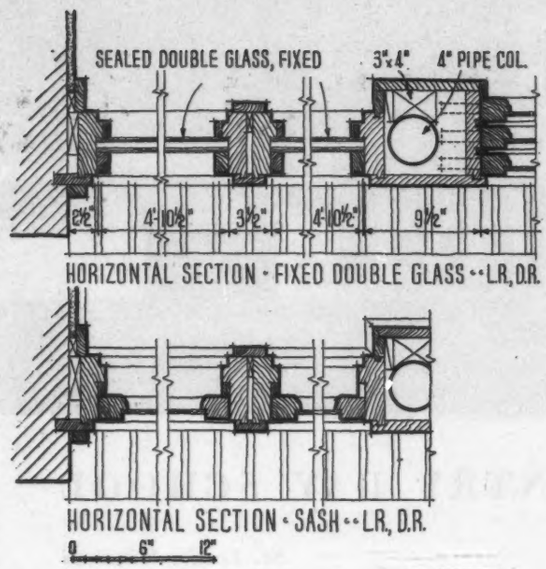
*William C. E. Becker, Structural Engineer*

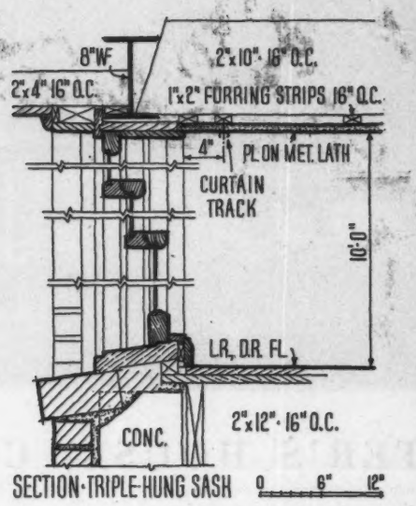
**Its plan worked out within the foundation limits of an old and very fancy Colonial house which burned down, this house sits on a knoll on the grounds of the St. Louis Country Day School. Using the old foundations and basement reduced construction costs but complicated planning; hence the north-facing bedrooms and certain other features.**



## ST. LOUIS HOUSE

*Center photo: large living room, from which the dining room is separated only by tall cabinets of curly birch plywood. Left, details of triple-hung sash and double glazing; right, details showing roof line following ceiling levels, which are lower in north rooms. At bottom: fireplace end of living room, and study*



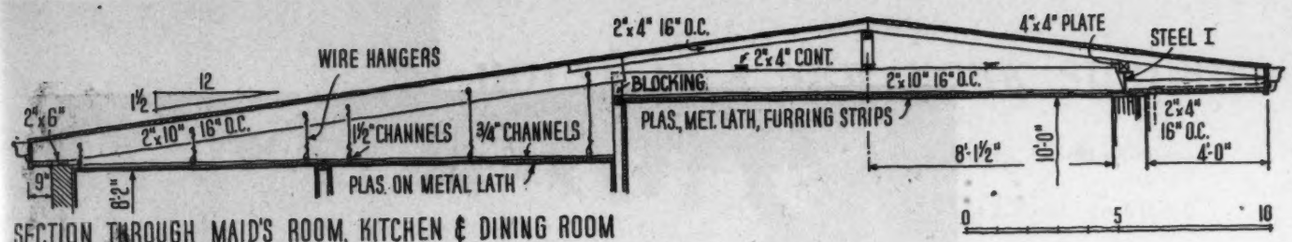








**Of necessity, Headmaster and Mrs. Robert N. Cunningham's house is quite formal. In living and dining rooms the south wall is entirely glass; beneath the fixed glazing are hopper sash for ventilation, and set into the wall are three large triple-hung windows. These help maintain comfort in warm weather by providing a means for getting rid of warm air near the ceiling, which is ten feet high in these rooms for both proportion and comfort.**

**The house has brick bearing walls on concrete foundations. The exterior white lime facing brick is covered with cement paint, and the roof is built-up, surfaced with light-colored aggregate to reflect heat. Interior partitions are wood, with hard plaster finish throughout. Insulation is rock wool, 4 in. thick, and the house has an oil-fired air conditioner, rebuilt from the previous residence, which supplies a 4-zone duct system. Each zone has its independent controls. The house contains 3120 sq ft; total cost was approximately $42,000, or $1 per cu ft.**




SECTION THROUGH MAID'S ROOM, KITCHEN & DINING ROOM





Piaget Studio photos

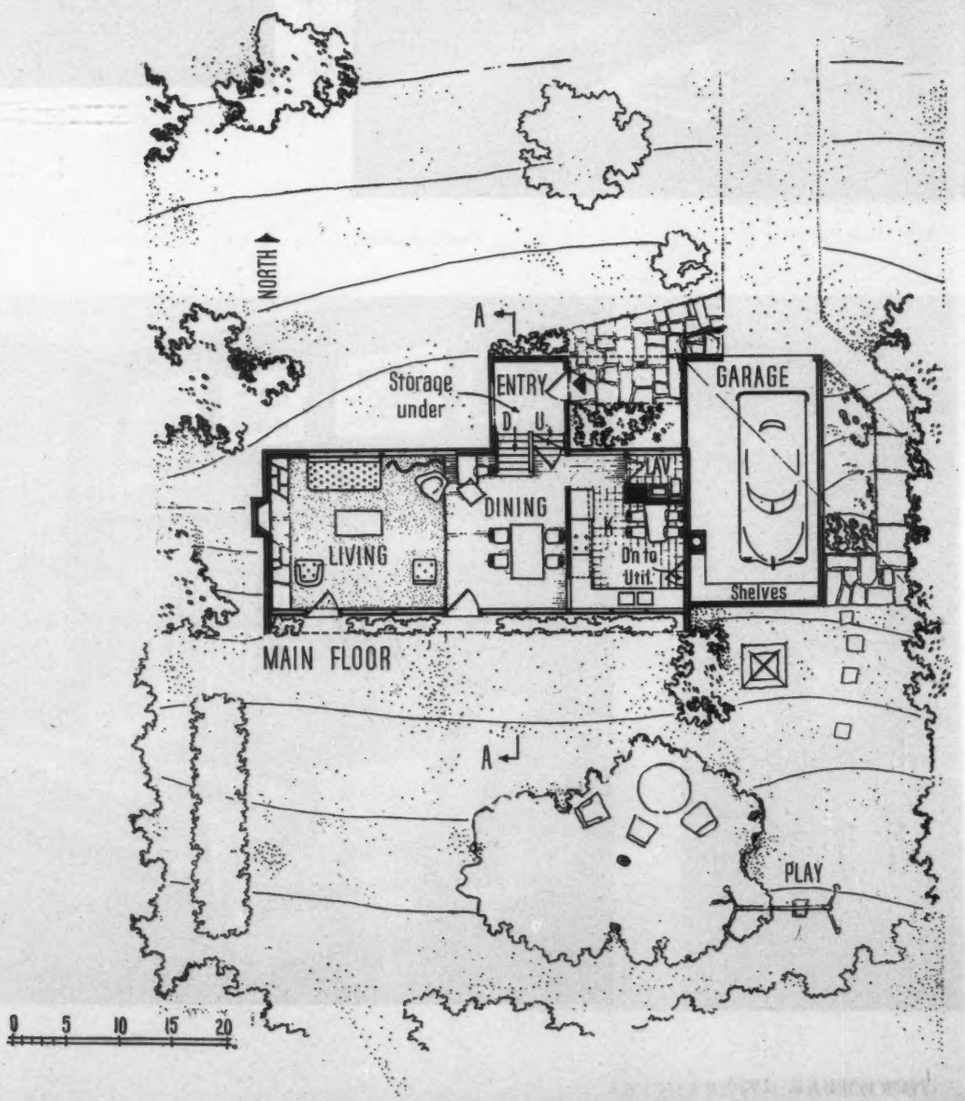






Richard Garrison photos

*On a sloping site, one readily apparent economy is what we used to call "split-level" planning. The entry, halfway between main and second floors, is here kept quite open. In combination with the openness of the plan, and continuously glazed walls on the opposite—south—side, this provides perhaps the most striking first impression. Mrs. Grossi finds it a satisfying and permanent one, particularly in contrast to the confinement of the apartment in which the family previously lived. Though a more formal family might be disturbed by the fact that an entering visitor has an excellent view of the dinner table, this does not bother the Grossis*



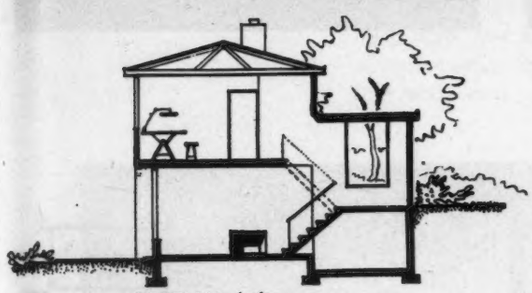


# HOUSE IN A NEW YORK SUBURB

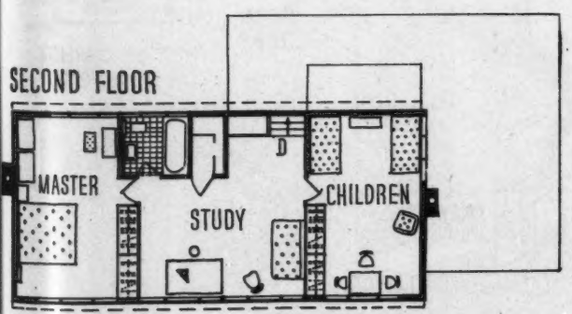
*For Mr. and Mrs. Olindo Grossi*

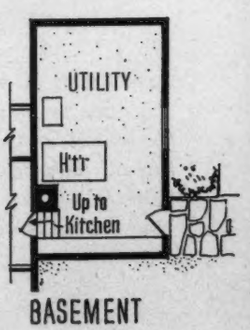
*Olindo Grossi, Architect*

WHEN an architect designs his own house, he's somewhat on the spot; when he is Head of the Department of Architecture (as Mr. Grossi is at Pratt Institute in Brooklyn), the spot becomes most definite. It behooves him to make judicious use of new ideas, techniques and equipment; and since his budget is just as limited as any of his clients' — how many architects or teachers are wealthy? — he must economize wherever possible. In his house his family must be able to live a normal life, and yet it must be available for demonstration. How well has this house succeeded?



SECTION A-A




BASEMENT







Richard Garrison photos

Openness and flexibility characterize this house; there is not even a pretense of a partition between living and dining spaces. A radiant heating system, designed in accordance with average practice and with copper tubing in the plaster ceilings, also contributes to flexibility. Research showed that the two-zoned system functioned well. Served by an oil-fired boiler, each zone has its own indoor thermostat. Cost precluded installation of clock thermostats and outdoor controls; it was found, consequently, that manual operation of thermostats was necessary or else, in winter, the house became too warm in mid-morning, too cool in early evening. Two criticisms: Supplies and return to upstairs zone pass through the exterior three feet of the kitchen ceiling, and when heat is needed downstairs, this ceiling is cold unless upstairs zone is also heating; and the living room coil length, 500 linear feet, made for unequal flow and a large temperature drop in this circuit's water. Nevertheless, the system was found very economical — one year's fuel cost for heat and hot water was $186 — and quite appropriate for a basementless house with so much glass. Upstairs temperatures were consistently two to three degrees higher than downstairs, probably due to convection; average temperature differential, floor to ceiling, was four degrees; the living room's glass wall apparently induced mild air currents which were found very agreeable — and which reversed at night! — and as soon as the winter sun penetrated the interior the heating system did not need to function. From 10 to 4 the oil burner ran only for domestic hot water.

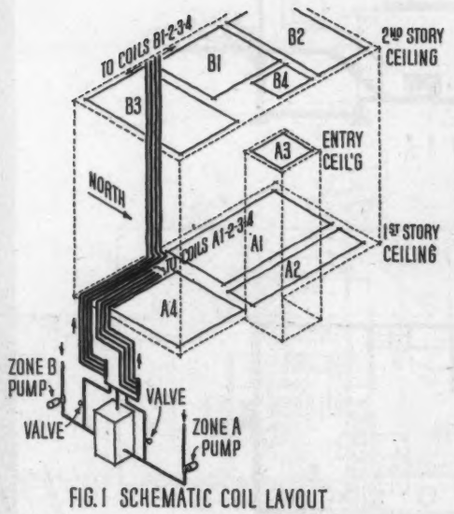



FIG. 1 SCHEMATIC COIL LAYOUT

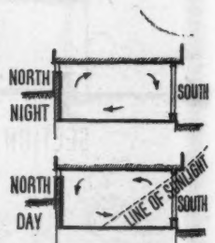



FIG. 2 AIR CURRENTS IN LIVING ROOM

*Careful study of the radiant heating system was made by six students in Pratt Institute's Mechanical Equipment courses: Giles Aureli, Howard Bonnington, Sven Gelin, Joseph Hnatov, William Johnke, and John Manley. Their findings are quoted at left*





*There are few interior doors; wall, floor and ceiling surfaces are natural and simple, and interest is obtained by the unobtrusive use of pleasantly light colors which are given substance by the contrasting solidity of natural masonry. Curiously, the family's three small children do not find it very satisfying to scribble on such natural surfaces, which simplifies one aspect of housekeeping. The kitchen has no doors, even on the passway to the living area. Mrs. Grossi finds that cooking on an electric range almost eliminates odors, and when something burns, the ventilating fan, installed so it really works, quickly expels smoke and smells*





Robert Cleveland photos






*The California climate practically dictates design for outdoor living, the architect tells us, and consequently the house turns its back on the street and its neighbors, facing toward an outdoor living area which it surrounds on three sides. Beyond, across the pool seen above, is an excellent view extending to the ocean*





# HOUSE IN BEVERLY HILLS, CALIF.

***Residence of Mr. and Mrs. Axel Zacho***

***Paul Laszlo, Architect***



THE owner's family consists of husband and wife and a son of high-school age. They do not employ a resident maid and do not do their own laundry; so there is no maid's room and the laundry is small. Husband and wife have separate bedrooms. The son's room can be converted into a den or guest room. Since the family does not entertain elaborately the dining room was kept a nominal size. Mr. Zacho, an importer, required space for storing and displaying objets d'art; and space was provided in the garage for the son's hobbies.

The lot is large, but part of it is very steep and even the restricted usable building area, far from level, needed retaining walls at either side. This necessitated very economical planning. Fortunately the fine view of Los Angeles, beach towns, and ocean lay directly south. In this direction the house opens, away from the street, with floor-to-ceiling sliding doors. Deep overhangs here keep out the high, hot sun, but admit it early and late.

Construction is reasonably conventional, with 2 by 4 in. studs, fieldstone, redwood, and cement plaster on the exterior. Interiors are finished with plaster and striated plywood. Floors are oak, carpeted, with cork tile in Mr. Zacho's and his son's rooms.





*Above, left, boy's room or den; floor here is cork tile. Right, Mrs. Zacho's bedroom has mirror wall with built-in dressing counter. Below, entry hall, with living room beyond*

Robert Cleveland photos



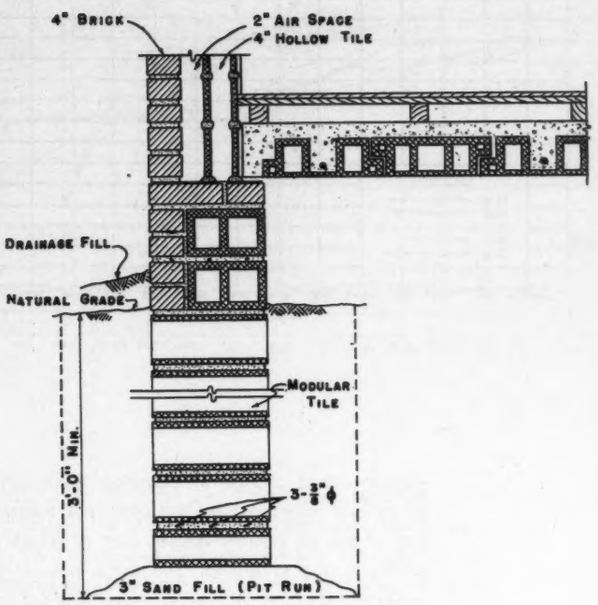
# TEST TILE FOOTINGS FOR EXPANSIVE SOILS



1. Expanding clay soil caused the enormous cracks in this wall



2. Crevices like this result from drying out of clay; enormous expansion follows when it rains




Floor & Wall - House No. 1

3. Open clay tile may be a solution for foundation in these soils

Photos Courtesy Acme Ceramic Home Program



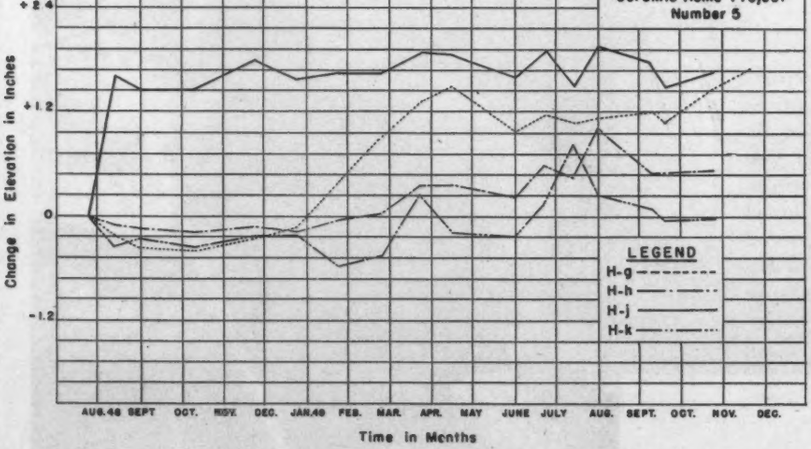
***By Raymond F. Dawson,***
***The University of Texas****

THROUGHOUT Texas and other parts of the Southwest, house foundations frequently run into trouble. Certain clays in these areas shrink and then swell to such an extent with change of season — long periods of drought are followed by those of rain — that foundations of common construction, and of course the houses built on them, may easily be

* *Professor of Civil Engineering and Associate Director of the Bureau of Engineering Research*




*Above: shows change in elevation (settlement) of various points around the open tile foundation of the all ceramic house, most of which is probably due to drying. The large amount of settlement and the differential movement did not cause any visible cracks. Below: shows the movement of a similar series of points on the frame house founded on spot footings. These being nearer the surface reflect considerable swelling in the soil (note the top curve) and demonstrate the unsuitability of spot footings*




wrecked by the tremendous swelling pressures developed. Shrinkages of soil from 35 to 240 per cent in volume* and swelling pressures in excess of 30 tons per sq ft have been measured. When the forces of expanding clay move a foundation far enough, masonry walls and plaster crack, doors can't be closed, floors become irregular and other similar troubles appear.

The problem of constructing an economical foundation that will be stable under all climatic conditions on such soils is now being studied by the University of Texas as part of the research of the Ceramic Homes Project.†

The foundation being investigated as a possible solution to this trouble consists of cellular tile, the idea being that if the expanding soil could push into the tile openings, the high pressures would not develop and the foundation would stay in place.

Five ceramic houses and a frame house were built in Austin, Texas to study foundations, and in addition to investigate heat flow through walls and roofs, natural cooling and space heating.

A site was selected on a clay typical of Texas (called "Eagle Ford Shale") which has a volume change ranging from 63 to 146 per cent. The small photo on page 155 shows the surface cracking of the soil that developed during the summer months.

There are numerous areas where similar soils occur. Destructive movements of soil have been observed in Oklahoma, Kansas, western Canada and also in South Africa, Australia and Burma. Any highly colloidal clay combined with the right climate will behave like the Texas soil described.

The objects of the foundation research are to determine the pressures developed and the amount of movement of the houses with changes in soil moisture. Naturally we expect to determine whether or not the open tile foundation is satisfactory in the expansive clays, but in addition we want to find the amount of movement and pressure that must be considered in foundation design.

Test results discussed here are from a ceramic building (House No. 1) with an open tile foundation carried 6 ft below the natural soil, and a frame structure (House No. 5) on spot footings 3 ft below the soil. The drawing and lower photo on page 155 illustrate the details of the open tile foundation.

** When calculated as percentages of the dry volume.*

*† Sponsored by the Acme Brick Co. and The Coates Co., with research under the supervision of the Bureau of Engineering Research, The University of Texas.*

The depth of tile foundations in the ceramic houses range from a minimum of 3 ft to over 8 ft in order to see whether or not the depth has any influence on movement of the structures. In no case were they carried below the line of seasonal moisture change.

Expansion of the "swelling" clays produces enormous pressures in both vertical and horizontal directions, although the ratio of vertical to horizontal pressure cannot be predicted at this time. However, it is known that if the soil is permitted to expand, the pressures developed are greatly reduced.

Vertical pressures under the foundation walls of the ceramic house were found to be from two to four times the horizontal pressures. Two possible causes for this are: (1) the walls were constructed on a 3 in. sand fill resting directly on natural soil, so there is no loose back-fill to be densified; (2) the bottom of the wall has no openings to relieve the pressure. We are now considering a wall with openings to permit vertical as well as lateral expansion of the soil.

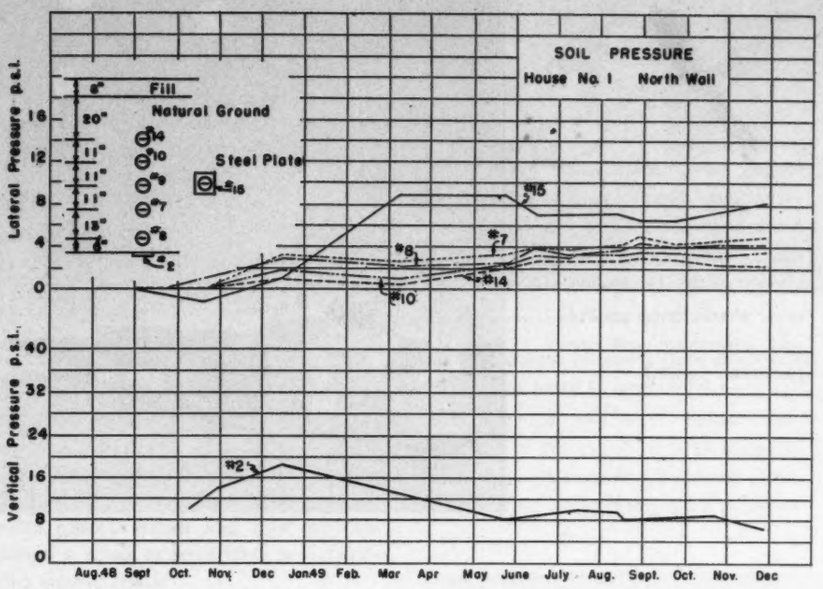
Pressure gauges measured horizontal and vertical swelling pressures of the soil. One gauge was mounted in the center of a 3 ft sq steel plate fastened on the outer side of the tile footing. Pressures developed here were approximately twice those found when the soil was not restrained and could expand into the tile openings. Seven months after this foundation had been in ground, the soil pressure against the steel plate was 9 psi or 1296 lb per sq ft. Just picture what this could do to a small house with ordinary foundation.

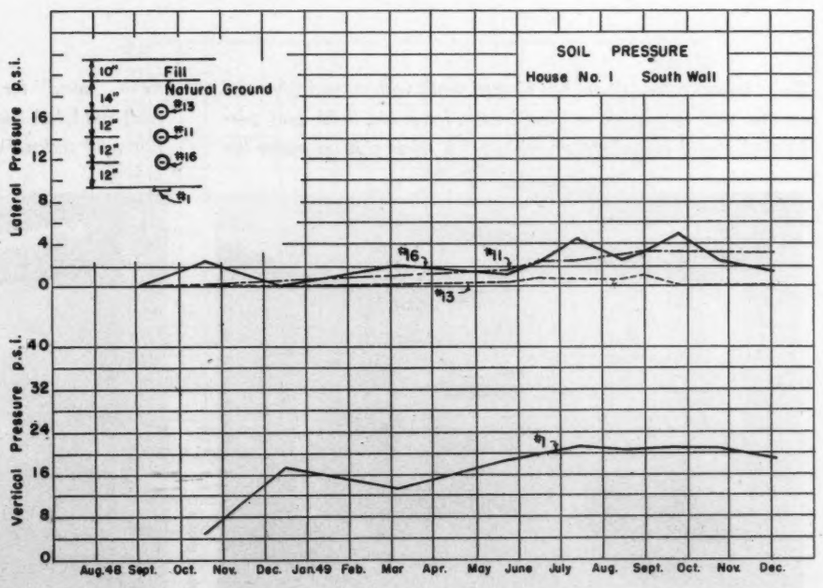
Wide trenches were used on both sides of the foundation of the ceramic house and these were back-filled with soil. To date much swelling pressure has been relieved by compaction of this back-fill.

It is interesting to note the large amount of settlement and differential movement that occurred with the ceramic house foundation (top figure, left page) with no visible cracks being observed.

With the frame house, the soil at one point became saturated and lifted the spot footing there almost 2 in. This showed up in irregular floors, and in this vicinity carpenters had to plane off the bottoms of the doors many times.

The expansion of the soil and consequent movement of the spot footings of the frame house show that they are not at all satisfactory for a clay soil that will swell considerably during a rainy season.




*The two graphs on this page plot soil pressure readings for the all ceramic house. The one above gives pressures developed on the uphill side and the one below, downhill. The greatest horizontal pressures occurred on the uphill side, and also the recordings at lower levels show greater pressures than those near the surface. The latter fact is probably due to densifying of the backfill near the surface. Note curve #15 above which shows pressures approximately twice those found when the soil was allowed to expand into clay tile openings. The bottom curves show vertical pressures developed under foundation walls which were from two to four times the horizontal pressures recorded*



*Large music studio in Norwegian broadcasting house employs slotted plywood with sound absorbent material behind to give reverberation control and interesting wall appearance as well*

# ARCHITECTURAL ACOUSTICS

***By Richard H. Bolt and Robert B. Newman***

***Article 3, Part Two: Reverberation. (Concluding Article)***

In Part One of this article we have discussed a number of the problems in the control of hearing conditions in rooms. Design criteria for background noise, loudness, and distribution of sound were considered and here in Part Two we shall consider the fourth factor, reverberation.

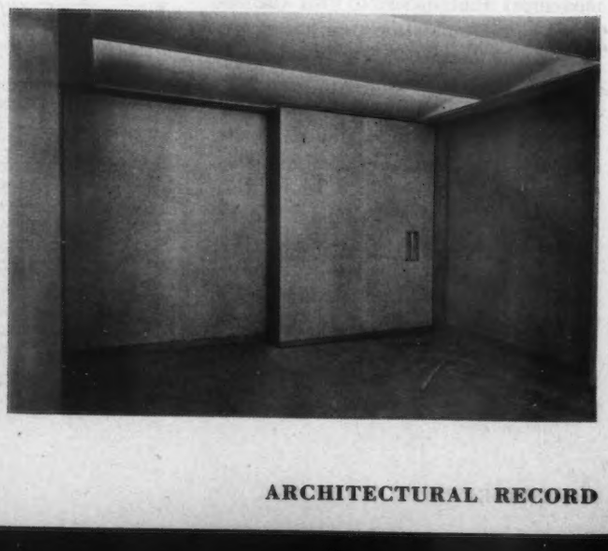
### *Reverberation Criteria*

Reverberation is the prolongation of sound after the source is stopped. A certain amount of reverberation is desirable in a room, particularly to contribute to the quality of singing tone — to add richness and fullness to musical sound. Also, the loudness of a sound increases somewhat as the reverberation increases, and a small amount of this increase can be very useful. Beyond certain limits, however, increased reverberation causes confusion through excessive overlapping of sounds with others that have not yet died out. In the case of speech this overlapping reduces the Percent Articulation in a manner that can be both predicted and measured (Part One of this article).

A quantitative rating of reverberation is given by the reverberation time $T$, defined as the time, in seconds, for the sound level to drop 60 decibels. This can be measured in a room by various instruments, such as the graphic level recorder. A sample record is shown in Fig. 1, where the method of obtaining the value of $T$ is indicated graphically.

*Swiss broadcasting studio has hinged walls with curved plywood on one side to provide a "live" room for music (left) and perforated sound absorbent panels on the other side to make the room "dead" for speech. For example, the left panel in the rear wall (left) has been pulled in front of the door resulting in the flat wall surface as at right. Various combinations are possible*





Pricam photos

Since, as we have noted, frequency characteristics are important, reverberation is measured at several different frequencies by using differently adjusted tones or by using a set of filters which pass just one range * of frequencies at a time.

The reverberation time measured in a completed room should be found to lie within an optimum range of values. Commonly accepted criteria for optimum $T$ are shown in Fig. 2. Different types of music and speech call for differences in $T$, and in all cases the optimum $T$ increases with the volume of the room. This increase is related to the above mentioned manner in which loudness increases with $T$. As the room gets larger the sound is spread more thinly and is thus reduced in level; this decrease can be partially compensated by letting the reverberation increase.

The proper frequency characteristic of $T$ is shown in Fig. 3. The shaded range allows for variations normally met in accepted practice, for minor refinements in frequency characteristic that may be desirable in special cases, and for some minor differences in the judgments of various specialists. Almost any room with reverberation values lying in or very near the optimum ranges shown in Figs. 2 and 3 will be satisfactory, *if* the other acoustic criteria are properly satisfied. No room that deviates widely from these reverberation values will have good hearing conditions.

### *Reverberation Control*

The reverberation time in a room is determined by the volume of the room and the total amount of sound absorption in the room, and the sound absorption in the room is determined by the characteristics of the finishes and furnishings. In a previous paragraph we have seen how we observe the reverberation time in an existing room. In many cases we wish to modify the reverberation time of a room, and in order to do this with some assurance of the final result, we must go through a certain amount of calculation on existing and projected conditions. More often we wish to design a new room for good hearing conditions without having to apply "corrective" measures after the room is completed. It is well to have some understanding, then, of how and to what degree the usual materials in a room absorb sound and how we can design a room to have ideal reverberation characteristics.

Sound is absorbed either by dissipating its energy in frictional drag in porous materials such as fabrics, carpeting, etc. or by inducing flexural vibration in wall panels, floors, etc. All materials absorb some sound, but for the hard massive materials such as concrete, we can neglect the absorption.

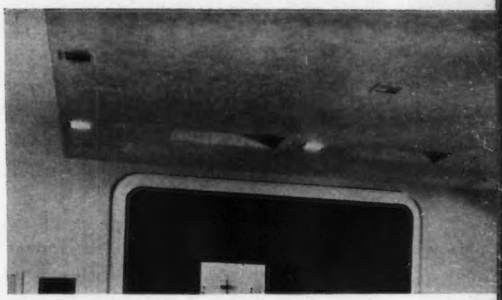
In porous materials (of importance in this connection are materials with interconnecting interstices of the order of .001 in.) the air particles which are set in motion by the sound arriving at the surface of the material encounter a certain frictional drag in moving in and out of the material and thus give up some of their energy in heat. This then decreases the energy in the reflected sound wave by as much as 90 per cent or more in many materials. The fraction of the incident energy which is absorbed (absorption coefficient) varies with frequency, depending on several physical properties of the material — thickness, porosity, etc. The absorption coefficient for most porous materials is smaller at the low frequencies and more or less uniform above some middle range frequency (see Fig. 4). In order to absorb

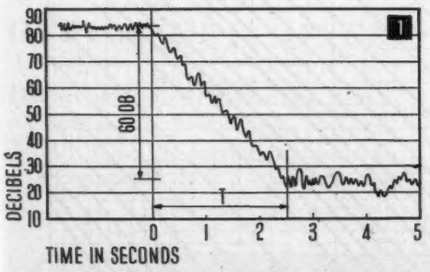
* *Commonly called frequency band.*

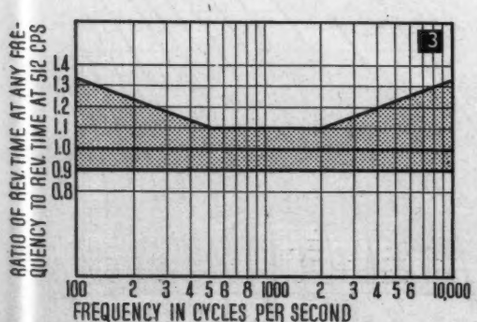


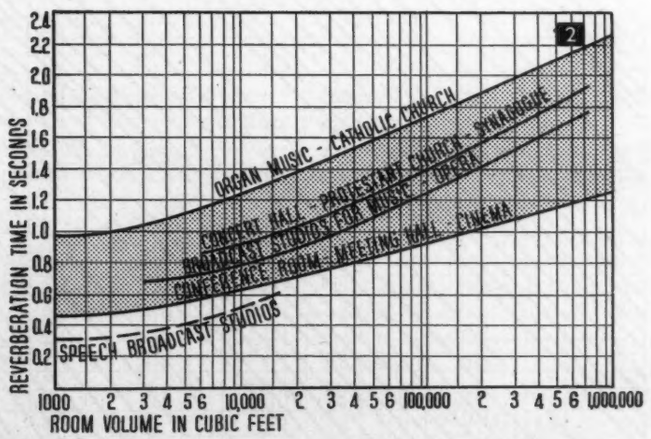
Courtesy Kilnoise: George Lohr photo

*Above: acoustic plaster is perforated with stipplers to make it repaintable and still maintain high efficiency. Below: only periphery of this church auditorium ceiling is covered with acoustic tile leaving center free to reflect sound down to the audience*





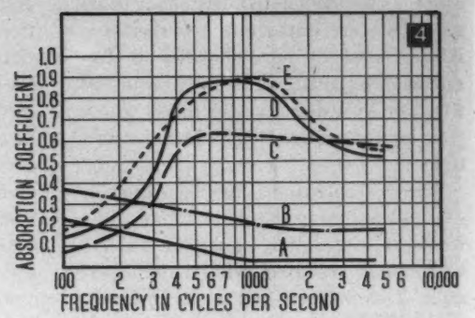




*1. The reverberation time of a room is the number of seconds it takes, once a sound has ceased, for the sound level to drop 60 db. 2. Optimum reverberation times for various types of rooms; speech studios are a special case. 3. Reverberation time at any frequency on chart will generally be satisfactory if it falls within shaded area*

low frequency energy effectively (and this is important in listening rooms if we wish to avoid a "boomy" characteristic) we must use very thick sound absorbents, usually 4 in. or more in thickness. The effectiveness of many of the thinner materials can be increased by furring the material out from the firm backup and leaving a free air space behind.

Fortunately some finish materials furnish, by panel vibration, considerable absorption in the range where the porous materials are inefficient. The resonant frequencies of wood panels of usual size employed in room finish, for example, lie in the lower frequency ranges and seldom are above about 500 cps. When a panel of any sort vibrates in resonance it takes energy from the impinging sound wave in the resonant frequency range and thus gives useful sound absorption. Some panels such as metals and many of the plastic materials have rather sharp resonances and of consequence absorb sound energy only in narrow frequency bands. Wood panels and other materials which give a dull thud rather than a musical "bong" when thumped, have broad resonance characteristics and absorb energy over a considerable and useful range of frequencies (see Fig. 4). It is important when we use panel absorption on rooms that we randomize the size of the panels so all will not absorb sound energy in the same frequency band, but rather have absorption over a wide range of low frequencies.

*4. Shows how the sound absorption of various materials changes with frequency. **A:** 3/8 in. plywood, random braced. **B:** two sheets 1/8 in. plywood, random glued, 1/8 in. spacing. **C:** 1/2 in. perforated tile cemented to plaster. **D:** 1 in. perforated tile cemented to plaster. **E:** 1 in. perforated tile on 1 in. furring*




We thus have at our disposal for the control of reverberation in rooms and for the achievement of the characteristics specified in Figs. 2 and 3, two mechanisms, which fortunately supplement each other. For low frequency control we can employ panel absorption, and for control of the middle and high frequencies, porous materials.

### *Calculating Reverberation Time*

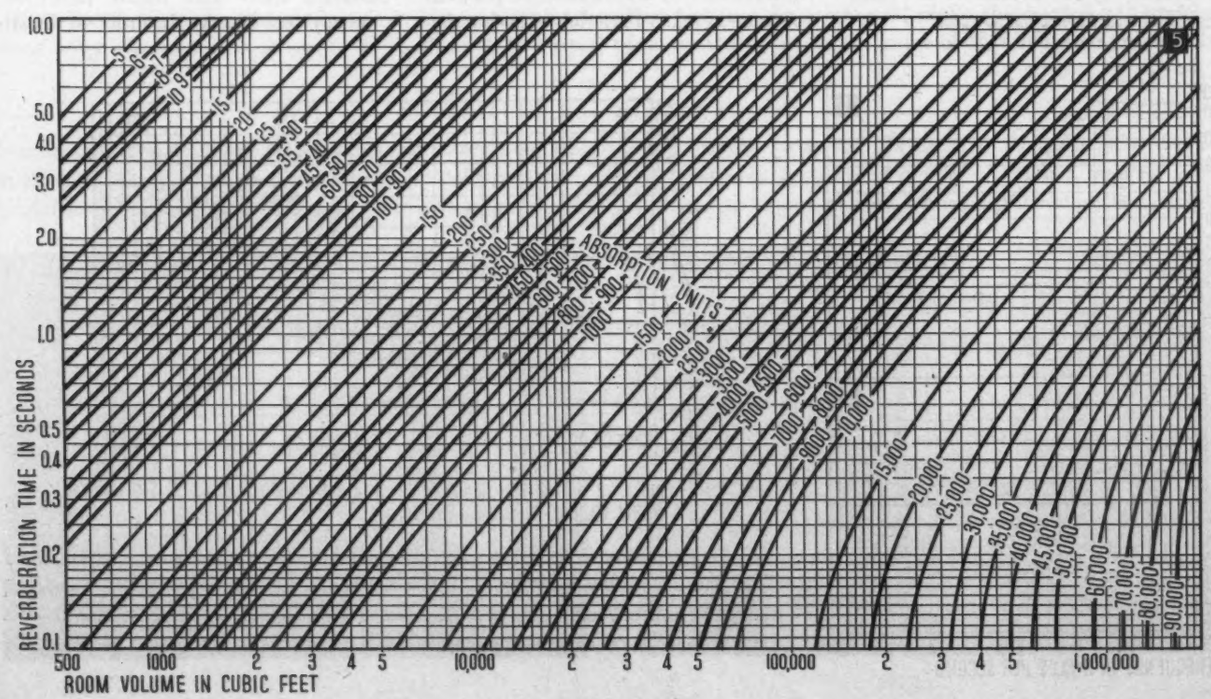
In order now to compute the reverberation time of a room we must first determine its volume. This should be the total free volume, including recesses if they are not too deep. If there is a large stage, joined to an auditorium through a relatively restricted opening, for example, we would exclude the stage volume in calculating the reverberation time of the auditorium, but we should check the $T$ of the stage itself.

Next we must determine as accurately as possible the total amount of sound absorption present in the room. This involves a tabulation of all the surface areas, furnishings and occupants. These factors are usually easily determined for an existing room, but in proposed construction, one must make reasonable assumptions as to finishes and furnishings.

For most of the common materials used to finish rooms, the absorption coefficients are readily available in the technical literature. If, for example, we have 2000 sq ft of furred plaster in the room, we find in a listing of materials that furred plaster has an absorption coefficient of .06, we simply multiply 06 x 2000 = 120 units (sabins) of absorp-

*(Continued on page 220)*

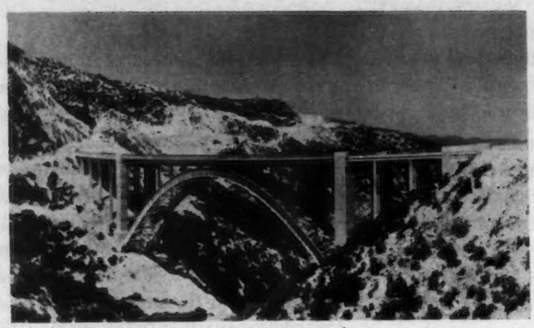
*5. Chart for calculating reverberation time or sound absorption of a room*



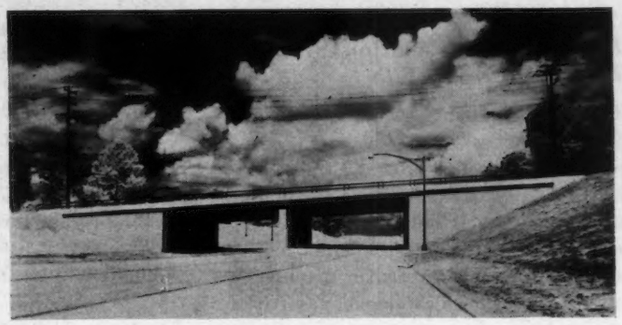


## YEAR'S OUTSTANDING STEEL BRIDGES

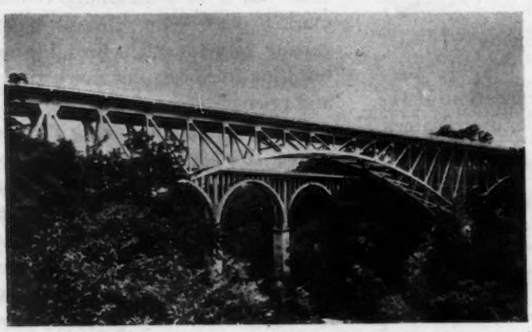
*Jury appointed by the American Institute of Steel Construction to choose the most beautiful steel bridges opened to traffic in 1949. Left to right: T. R. Higgins, director of the Institute, Prof. Robert L. Lewis, Walter E. Jessup, Kenneth Franzheim, Eero Saarinen and Lawrence MacKinney*



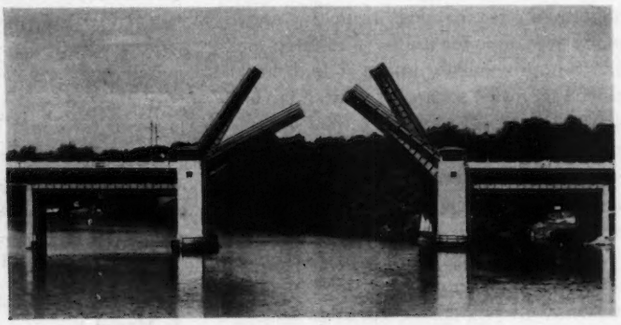
*Pinto Creek Bridge, Superior, Arizona, Class II (less than 400 ft, cost over $500,000) designed by Highway Dept.*



*Tenth St. Bridge, Atlanta, Ga., Class III (less than 400 ft, cost under $500,000) designed by Robert and Co., Assoc.*



*North Main St. High Level Bridge, Akron, O., Class I (span 400 ft or more) designed by Wilbur Watson Assoc.*



*Passaic River Bridge between Clifton and Rutherford, N. J., most beautiful movable bridge, designed by N. J. Highway Dept.*

## OFFICE BUILDING INNOVATIONS

DESIGN of the Five-Fifty building, under construction in Miami, Fla., evolved directly from the special requirements of its occupants. It is a cooperative of 11 physicians, one medical laboratory, three law firms, and the architect, Robert Law Weed and Associates. Due to the large medical tenancy, more than the usual amount of plumbing was required. Thus the supporting columns were pulled back from the outside wall into the middle of the office space so that all columns would have soil and vent stacks up them.

The floors are flat plate construction. Slabs are flat on the bottom, making it possible to reduce materially the story heights. Since floors are cantilevered on all sides, the walls needed to be light. They consist of panels 8-ft wide, one story high and 4-in. thick, and are made of pumice concrete with a white cement, faced with a quartz aggregate. Panels sit on clip angles at the bottom and are held by two bolts on top.



City of Miami
News Bureau Photo

# MANUFACTURERS' LITERATURE

### *Improved Classification System For 1951 Sweet's File*

The purpose of filing is to insure finding. Since product selection is based on comparison of competing products, the problem of classifying and indexing manufacturers' catalogs is not an easy one to solve: it should enable the catalog file user to find any particular manufacturer's catalog, or a catalog on any particular type of product, and to find catalogs of competing products adjacent to each other.

Research and experience in making manufacturers' catalogs quickly and easily accessible for use have resulted in many improvements initiated and employed by Sweet's Catalog Service Division of F. W. Dodge Corp. The latest improvement, the one to be employed by Sweet's for its next series of catalog files, is a simplification of the method currently in use.

The file will consist of 33 major product sections. Within each of these major sections will be the logical subsections according to products or users of products. The manufacturers' catalogs in each sub-section will be arranged in alphabetical sequence by manufacturers' names.

The different symbol to be used for each manufacturer's catalog will consist of three parts:

(1) The major section number

(2) followed by the sub-section letter.

This number and this letter in each case will be above a line.

(3) Under the line will be, in a capital type, the manufacturer's initial letter, followed by the second letter in the manufacturer's name in lower case.

For example, to find Reynolds Metals Co., Inc. (Aluminum Div.):

This catalog will be found in the metals section, which will be Section 6. Sub-section *a* is for metals, aluminum. Since this sub-section will also contain the catalogs of other manufacturers of aluminum products, Aluminum Company of America, The Kawneer Company and Permanente Products Company (as in SA '50), the symbol to be used in finding the Reynolds catalog will be:

Section no. → 6a ← sub-section letter

Re ← first two letters in manufacturer's name

Under this system, the catalogs in the aluminum sub-section under metals will be:

| | |
|---|---|
| Aluminum Company of America | 6a / Al |
| The Kawneer Company | 6a / Ka |
| Permanente Products Company | 6a / Pe |
| Reynolds Metals Company | 6a / Re |

In case there is a duplication in the first two letters of manufacturers' names, the second manufacturer in alphabetical sequence will have the first three letters of his name used to avoid duplication of the symbol within a particular subsection; but this will rarely be necessary.

Functionally, a catalog file in a field of technical products corresponds roughly with a department store of consumer products. The departmentalization of products is for the same basic purpose as the sectionalization of a catalog file — to make product comparisons and selections as easy and as time-saving as possible. Each is a shopping center — a market place — an efficient means of getting buyers and sellers together — resulting in lower unit marketing costs and prices.

For the filing and finding of manufacturers' catalogs which are not prefiled and distributed in Sweet's File, architects may wish to file such catalogs alphabetically under the section number and sub-section letters so that the system used in an office for manufacturers' catalogs received in individual form and those prefiled in Sweet's are coordinated.

Reprints of this complete classification will be supplied to readers of ARCHITECTURAL RECORD without charge on request to: Sweet's Catalog Service, 119 W. 40th St., New York 18, N. Y.

***Major Product Classifications For 1951 Sweet's File Architectural***

1. Contractors and special services
2. Foundations
3. Structural Systems
4. Masonry
5. Wood
6. Metals
7. Glass, plastics
8. Roofing and siding
9. Waterproofing, dampproofing
10. Thermal insulation
11. Sound Control
12. Lath, plaster, wallboard
13. Flooring and wall covering
14. Floor treatment and maintenance
15. Paints and finishes
16. Doors
17. Windows
18. Hardware
19. Door and window equipment
20. Skylights, ventilators
21. Store fronts
22. Partitions, wirework, fences
23. Furnishings, special equipment
24. Kitchen and food service equipment
25. Bathroom, washroom, laundry equipment
26. Waste disposal, cleaning equipment
27. Pipe and fittings
28. Water supply and drainage
29. Air conditioning and heating
30. Electrical distribution
31. Lighting
32. Communication
33. Vertical transportation

---

### *Metal Doors and Frames*

*VMP Architects' & Builders' Manual Data Sheets.* Reviews a varied line of metal door and frame units. A great number of construction, installation and profile details are given. Tables list dimensions and catalog numbers of the units. Each door type is accompanied with application and specification notes. 38 pp., illus. Virginia Metal Products Corp., Orange, Va.*

### *Wood Window Sash*

*Ponderosa Pine Windows, Sash and Screens (Commercial Standard CS163-49).* Provides specifications for standard sizes, layouts and construction of pine

stock windows, sash and screens. The standard also contains specifications for casement, cellar, cupboard, hot bed, picture, porch, storm and barn or utility sash and transom windows. Both full window and half window screens are covered, as well as screens for one-light sash. Printed copies may be obtained for 15 cents per copy. Superintendent of Documents, Washington 25, D. C.

### *Furniture*

*Dunbar For Modern.* Features the Dunbar line of furniture, with illustrations of many room settings. A brief history of modern furnishings is included, entitled "What Is Modern." Also illustrated are wallpapers, art reproductions, dinnerware and lamps suggested as appropriate for modern rooms. 28 pp., illus. Price 25 cents. Dunbar Furniture Manufacturing Co., 227 E. 56th St., New York, N. Y.

### *Tile and Concrete Slabs*

*Combination Tile and Concrete Floor and Roof Slabs* (*Technical Notes On Brick and Tile Construction, Vol. 1, No. 8, Aug., 1950*). This issue of the Structural Clay Products Institute monthly bulletin treats the use of hollow tile to reduce the weight of concrete slabs. A number of typical structural details are included. 4 pp., illus. Structural Clay Products Institute, 1949 Grand Central Terminal, New York 17, N. Y.*

### *Air Cooling Equipment*

*Spray Type Air Washers, Humidifiers and Dehumidifiers* (*Bulletin No. 7*). Describes equipment for use on industrial and comfort cooling installations. Illustrations and specifications are given of the component parts. Details and size and weight tables are included for each type of machine. 24 pp., illus. Buensod-Stacey, Inc., 60 E. 42nd St., New York 17, N. Y.

### *Wood Trusses*

*Wood Frame Teco Trussed Rafters.* Booklet discusses features of wooden roof trusses joined with Teco connectors. Sketches of appropriate truss shapes and photographs of typical installations are shown for churches, commercial and industrial buildings, homes, schools and apartments. Notes and details are also given on special roof framing problems. 12 pp., illus. Timber Engineering Co., 1319 18th St., N.W., Washington 6, D. C.

### *Fireproofing With Plaster*

(*1*) *Typical Fireproofing Details For Steel Columns;* (2) *Typical Fireproofing Details For Suspended Ceiling Under Non-combustible Construction.* Folders give information on fireproofing with light-weight Permalite plaster. Each includes a detailed drawing and a short form specification of the construction. The first folder gives necessary specifications for getting fire ratings of 1, 2, 3 or 4 hours. The second is on construction which has a 4 hour rating. 4 pp., each, illus. Great Lakes Carbon Corp., Building Products Div., 18 E. 48th St., New York 17, N. Y.

### *Unit Heaters*

*National Unit Heaters For Horizontal Delivery and Down Flow Delivery* (*Catalog N. 575*). Lists features and component parts of the heaters. Application and technical data are given, including: rating and capacity tables, steam and hot water conversion factors, dimension tables, and piping and wiring diagrams. Installation and maintenance instructions are also given. 16 pp., illus. The National Radiator Co., Johnstown, Penn.

### *Aluminum Venetian Blinds*

*Plastic Lume "400."* Folder discusses features and qualities of plastic-enamel finished aluminum alloy blind slats. A specification data table gives notes on material and processing, finishing, forming, dimensions, weight and performance. A list of the colors available is also given. 4 pp., illus. Lando Products, Inc., 780 Golden Gate Ave., San Francisco 2, Calif.

### *Cabinet Showers*

*Weisway Cabinet Showers* (*Catalog No. 450*). Presents several models of cabinet shower stalls, with descriptions and specifications. Color chips are included for finishes available. Typical plan layouts are given for new and remodeled houses. Accessories for the units, roughing-in dimensions, and construction and installation data are included along with many details. 24 pp., illus. The Henry Weis Manufacturing Co., Inc., Elkhart, Ind.*

### *Air Cleaner For the Home*

*Electronics Give You a New Key To Cleanliness In The Home* (*Booklet B-5156*). Describes the features of the Precipitron electronic air cleaner for the home. Notes are included on the operation, construction and installation of the unit. A cutaway view and data on weight and dimensions also are included. 16 pp., illus. Westinghouse Electric Corp., 125 Damon St., Hyde Park, Boston 26, Mass.*

### *Awnings for Store Fronts*

*Astrup Awning Equipment For Modern Store Front Construction.* Bulletin gives descriptions of several types of awning equipment, including: awning fabrics, lid and awning operating mechanisms, equipment for aluminum roller awnings and operating gears. Details and sketches are given for many of the items. Photographs of typical installations and specifications also are included. 8 pp., illus. The Astrup Co., 2937 W. 25th St., Cleveland 13, Ohio.*

### *Surveying Instruments*

*Gurley Engineering Instruments* (*Catalog No. 50*). Presents a line of engineering instruments for surveying and construction work, as well as for other fields. Among the items covered are transits, levels, alidades, plane table outfits, tripods, drawing boards and paper, current meters, plummets and hand levels. Each item is illustrated and described. 114 pp., illus. W. & L. E. Gurley, Troy, N. Y.

### *Light Dimmers*

*Radiastat and Autrastat Dimmers* (*Bulletin 76*). Describes features, construction and operation of a line of dimmers for use in public and commercial lighting installations. Details and photographs are given of the component parts and mounting frameworks of the units. Wiring diagrams and tables of sizes and capacities are included also. 16 pp., illus. Ward Leonard Electric Co., Mount Vernon, N. Y.

### *Fans and Blowers*

*Fans and Blowers By Moore* (*Catalog No. 5001*). Contains design and rating data on pressure blowers and motors.

(*Continued on page 246*)

* *Other product information in Sweet's File 1950.*

# PRODUCTS for Better Building







### *Cantilevered Concrete Slabs*

A quickly erected, sturdy system of cantilever construction was said to have been effected at the new Trails End Court in St. Petersburg, Fla., by the use of hollow cast *Flexicore* concrete slabs. The architect was William B. Harvard, with John B. Dodd as Associate. Wings were designed with 16 ft wide rooms, flanked by 8 ft wide cantilevers on both sides. A 32 ft continuous slab was required. To achieve this, two 16 ft slabs were used. The slabs were supported near their centers on the outside walls. A 12 in. space was left between the ends of the slabs in the center of the room. In this space 12 by 10 in. steel reinforced beams were cast. Concrete, reinforced with ½ in. dowels, on 2 ft centers, was vibrated 18 in. into the Flexicore cores at the same time the beams were cast to form a solid roof structure. The slabs were left exposed for the ceilings. Roofs were insulated with up to 4 in. of vermiculite fill and weatherproofed with tar and gravel. Windstorm and fire insurance rates were said to be lowered considerably by this method of construction. The long-span concrete building slabs are pre-cast in 6 by 12 in. cross section, and in inch variations of length up to 22 ft 6 in. Price Brothers Co., 1932 E. Monument Ave., Dayton 1, Ohio.

### *Color Control For Lighting*

A compact and simply operated new system, called *Rollocolor*, has been developed to produce lighting in any of 500 color shades or effects. Four colored light sources are used — red, blue, green and white. They may be used in a great variety of set-ups, such as strips, spots or floodlights, for displays, stages or decorative lighting of interiors.

The control unit itself is encased in a metal cabinet the size of a portable radio. A single control dial regulates light colors and intensities, which are predetermined and indicated on the panel. A supplementary motor, called a "Dynamic Control," may be used to operate the unit automatically through the entire color range, or for various time cycles. Imperceptible changes in color gradations are produced by varying the output voltage of the transformers to change intensities, and by the use of cam-operated micro-switches to cut in or out any of the four basic color circuits. Consolidated Edison Co., 4 Irving Place, New York, N. Y.

### *Plastic Paint*

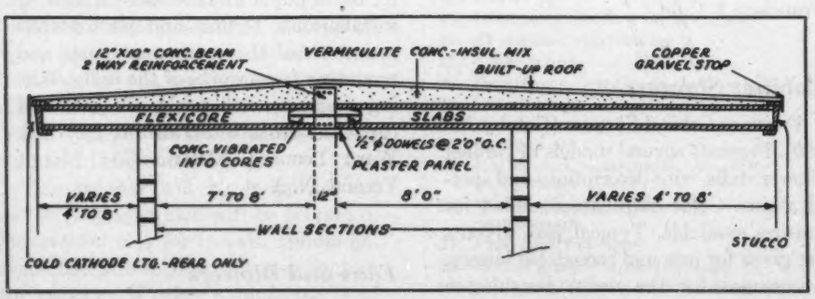
*Corrosite* plastic paint is claimed to protect against corrosion, rust, erosion and rot of wood, metal and masonry. Liquids, fumes and electrolytic action are said to have no effect on the paint. While particularly useful as a finish for industrial plants, machinery, structural steel, etc., the paint is equally applicable to such areas as chemical laboratories, kitchens or bathrooms.

The material consists of a series of unpigmented and pigmented coatings, composed of vinyl resins. These are blended with plasticizers and high boiling point solvents. The standard finish is semi-gloss, but it can also be supplied in flat. The liquid may be applied by brush, spray or dip methods, and dries in one hour. As a liquid, the substance is inflammable, but when dry is claimed not to support combustion. Eighteen standard colors are available, including black, clear, white and aluminum. Custom colors may also be matched. The Corrosite Corp., Chrysler Bldg., New York 17, N. Y.

### *Oil-Resistant Wire*

A gasoline- and oil-resistant wire, called *Geotrol*, has been developed to eliminate the usual lead covering. This is said to give a considerable saving in cost, weight and installation time. It is designed for wiring in conduit to gas

(*Continued on page 224*)




*The two photos at top show finished and construction views of roof overhangs made of hollow cast concrete slabs. Lower photo and detail show construction of concrete beams used to tie slabs together*



Ploudler Co., Rochester, New York

## TEN YEARS FROM NOW... the layout will have changed four times... the walls will be the same

OVER AND OVER AND OVER AGAIN—that's the way Mills Metal Walls are used. They're made to keep pace with the constantly changing space requirements of modern business. They're as permanent and solid and beautiful as any walls you'd ever want around you but they can be moved—*quickly, easily and at very low cost*—to fit any new arrangement of space that progress dictates. The entire job can often be done overnight without interrupting business routine.

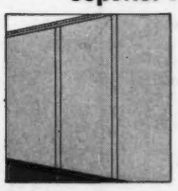
Dignified and refined in architectural design, they're available in a wide variety of attractive colors in baked-on finishes that keep their fresh new look with a minimum of maintenance. Exclusive features like all-welded panel construction, special treatment that eliminates harsh light reflection, and scientific soundproofing and insulation make Mills Movable Metal Walls *the demonstrably superior system for flexible division of interior space.*

© The Mills Company

**THE MILLS COMPANY • 961 Wayside Road • Cleveland 10, Ohio**

### SPECIFY "MILLS" FOR:

**All-Welded Panels • Glareless Finishes**
**Scientific Insulation and Soundproofing**
**Easy Erection • Maximum Mobility**
***Superior Architectural Design**



***A CASE IN POINT**

Mills Walls, because of all-welded panel construction, need only a minimum of lines at panel joints to assure maximum mobility, precision erection.

*For all the facts see Sweet's Architectural File or write for Mills Movable Metal Walls Catalog No. 50.*

★ MILLS *Movable* METAL WALLS ★



*Entry and Marquee; Satin finish stainless panels*
*Main Wall; Wider panels of crepe finish stainless*

# Stainless Steel isn't new in Buildings but this year it's NEWS

ARCHITECTURE has just taken a long, long step forward, with the advent of stainless steel "curtain wall" construction. Instead of the conventional masonry, this method employs insulated panels faced with stainless steel. Advantages? *Dozens of them!*

Here are a few. Stainless steel curtain walls 3" thick have insulating qualities superior to 12" of masonry. They give you more floor space, and they're much lighter . . . you can put four stories on foundations designed for three floors in masonry. Construction is much easier and faster, materials handling and storage are vastly simplified, and you completely avoid cold-weather difficulties with mortar and cement. What's more, the stainless exterior requires little maintenance, no painting, won't wear off and can't wear out.

That's the kind of eye-opening job Allegheny Metal does everywhere it's used—in buildings, industrial equipment or armament. It's a highly essential material. We're continuing to spend millions to increase our production, and we offer every aid to users to make the supply go as far as possible.

★ ★ ★ ★ ★

Complete technical and fabricating data—engineering help, too—are yours for the asking from Allegheny Ludlum Steel Corporation, Pittsburgh, Pa. . . . the nation's leading producer of stainless steel in all forms. Branch Offices are located in principal cities, coast to coast, and Warehouse Stocks of Allegheny Stainless Steel are carried by all Joseph T. Ryerson & Son, Inc. plants.

*Interested in Building?*
*Write for this Booklet:*
**STAINLESS STEEL CURTAIN WALLS**
**. . . Progress Report on Methods**

24 pages of valuable data for architects, builders, real estate, bank and industrial executives on a revolutionary building method. Your copy is free on request.

**ADDRESS DEPT. AR-11**

W&D 3246

## You can make it BETTER with Allegheny Metal

AL
TIME-TESTED STAINLESS STEEL

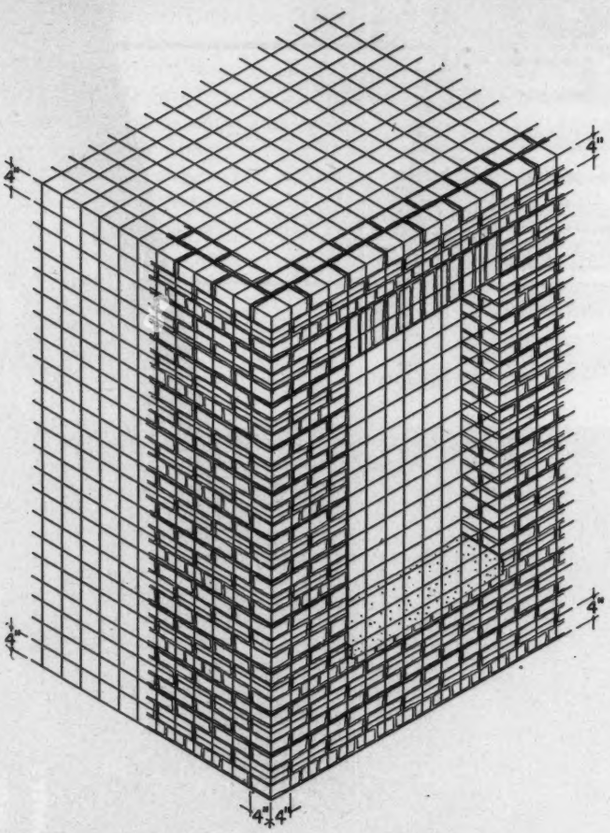
# MODULAR COORDINATION: 1

***Prepared with the cooperation of Structural Clay Products Institute***

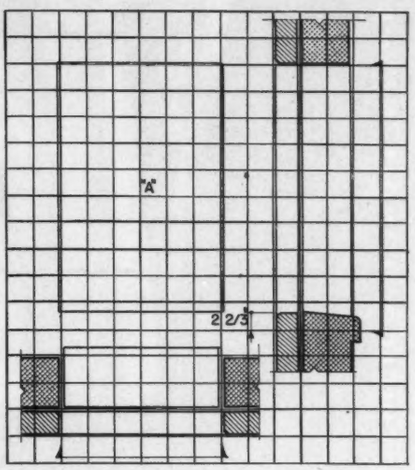
The Modular Coordination project has long sought to reduce costs of construction through the sizing of building products so they will fit together without alteration on the job. For the architectural drafting room, this requires dimensioning of building plans so they are related to these standard product sizes. Many architects who have employed such a method have found that, on the first projects, the modular system required more drafting time than the conventional methods. However, with greater familiarity with the system, they found that drafting time was substantially reduced. Standard details can be repeated throughout a structure, and modular dimensions are very simple to check. Contractors who have constructed buildings from modular designs have reported both reductions in cost and construction time and improvement in quality.

This study is based on the *A62 Guide For Modular Coordination*, prepared under the direction of American Standards Assn., and sponsored by the A.I.A. and the Producers' Council, Inc. The system is based on a three-dimensional grid of 4 in. modules, and applies to the height, length and width of buildings.

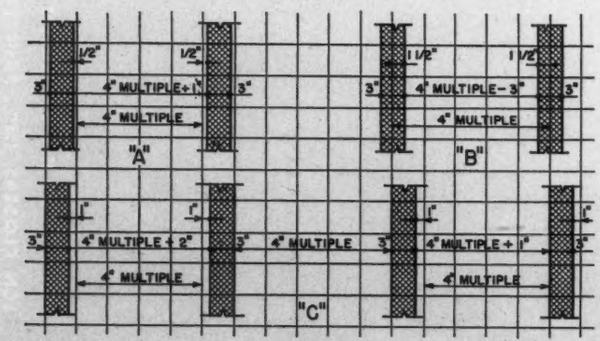
**Non-modular sized items** can be used, but a special detail must be worked out to relate the product

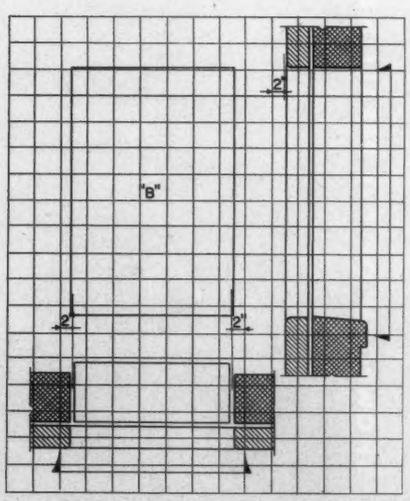



*The three dimensional grid (above) applies in all directions*




*Properly placed, the section, elevation and plan fall in the same relative position with respect to grid lines; compare walls A and B (below left) with openings A and B (above and below). When all walls are not related to grid in same manner, as in C, many differences will occur between grid dimensions and actual dimensions, and must be identified on plans*



# MODERN DOOR CONTROL BY *LCN* • CLOSERS CONCEALED IN HEAD FRAME

SHOWROOM OF THE PARAFFINE COMPANIES, INC., CHICAGO, ILLINOIS *Norlin R. Wolfe, Designer*




LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S

LCN CLOSERS, INC., PRINCETON, ILLINOIS

# MODULAR COORDINATION: 2

***Prepared with the cooperation of Structural Clay Products Institute***

dimensions to the 4 in. grid. The same detail can be repeated wherever the item appears in the project. Thicknesses of floor and walls need not adhere to the module, as long as some part is referenced to the grid.

**The selection of grid locations** for critical parts of the structure, such as walls and floors, is one of the first decisions to be made in the development of a modular design. Because of the three-dimensional nature of the grid, all subsequent details are affected by this selection (see details, Sheet 1). It is advantageous to center walls between grid lines, or on a grid line. The difference in such cases between grid dimensions and actual dimensions is a single constant. This simplifies estimating quantity takeoff and the determination of the actual dimensions when they are needed. It often reduces the variety of lengths of framing members and other parts. When all walls are not related to the grid in the same manner, many differences must be identified on the plans.

**In drafting practice,** the grid itself need not be drawn on the plans. In preliminary work a grid may be used either on the drawings or under tracing paper. In the final drawings, a series of standard symbols may be employed to indicate the grid position. In the ASA System, points on grid lines are designated by an arrow, and points not on grid lines by a dot. For openings, the grid to which dimensions are referenced are identified by a half-arrow symbol.

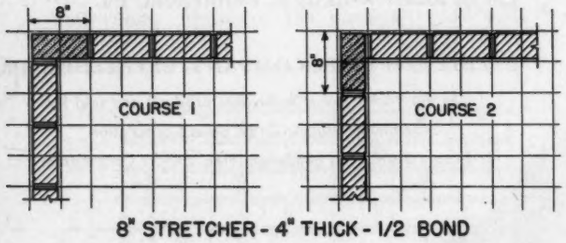
**Modular details** are used to show the grid location of a part of the structure, and the assembly of materials. To correlate them with building layouts, each must maintain the same relative grid positions.

### *Modular Masonry Units*

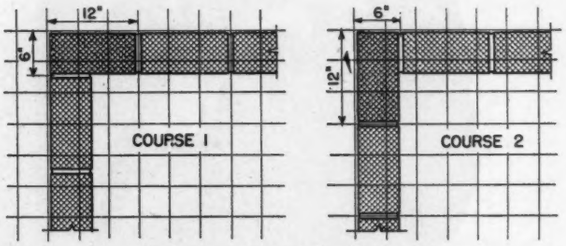
For the examples illustrated on Sheets 2 and 3, modular masonry is used to show how 4 in. planning flexibility can be achieved in modular layouts. The sizes of standard modular brick and tile are given in the following tables:

**STRUCTURAL CLAY BRICK**
Nominal Sizes, Inches

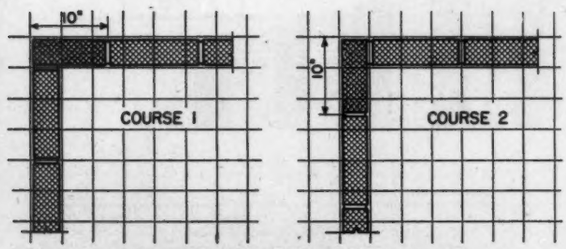
| Full Size | | Supplementary Sizes | |
|---|---|---|---|
| Height | Length | Height | Lengths |
| 2⅔ | 8 | 2⅔ | 6, 4 |
| 3 | 8 | 3 | 6, 4 |
| | | 2 | 8, 6, 4 |
| 4 | 8 | 4 | 6, 4 |
| 4 | 12 | 4 | 10, 8, 6, 4 |



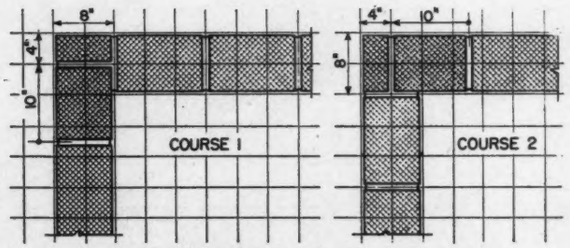

8" STRETCHER - 4" THICK - 1/2 BOND



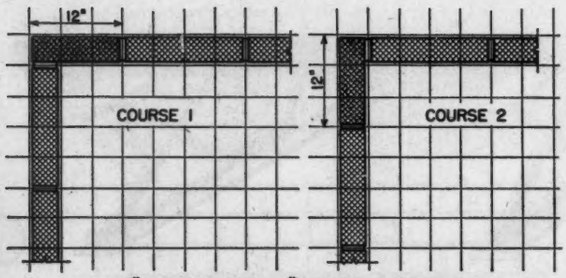

12" STRETCHER - 6" THICK - 1/2 BOND



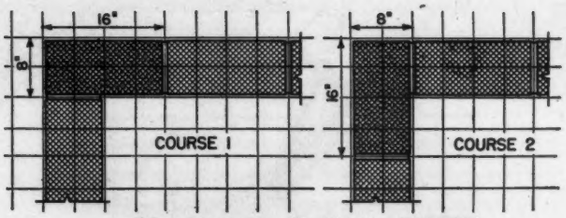

12" STRETCHER - 4" THICK - 1/2 BOND




12" STRETCHER - 8" THICK - 1/2 BOND




16" STRETCHER - 4" THICK - 1/2 BOND




16" STRETCHER - 8" THICK - 1/2 BOND

*The corner detail which starts the joint pattern determines the horizontal grid position of masonry units. A half bond is started with units equal to stretcher length when the stretcher width is half its length. Other sizes require a supplementary corner unit. Small closure units for tiles may be used as shown with 12 by 8 in. stretchers*

# *Floors can't shrink when built with these steel joists*

All too often, floors shrink to cause wide, unsightly cracks between floor and baseboard—cracks which catch dirt and provide excellent breeding places for insects and vermin. This defect can be avoided in new buildings by using open-web steel joists in the floor construction.

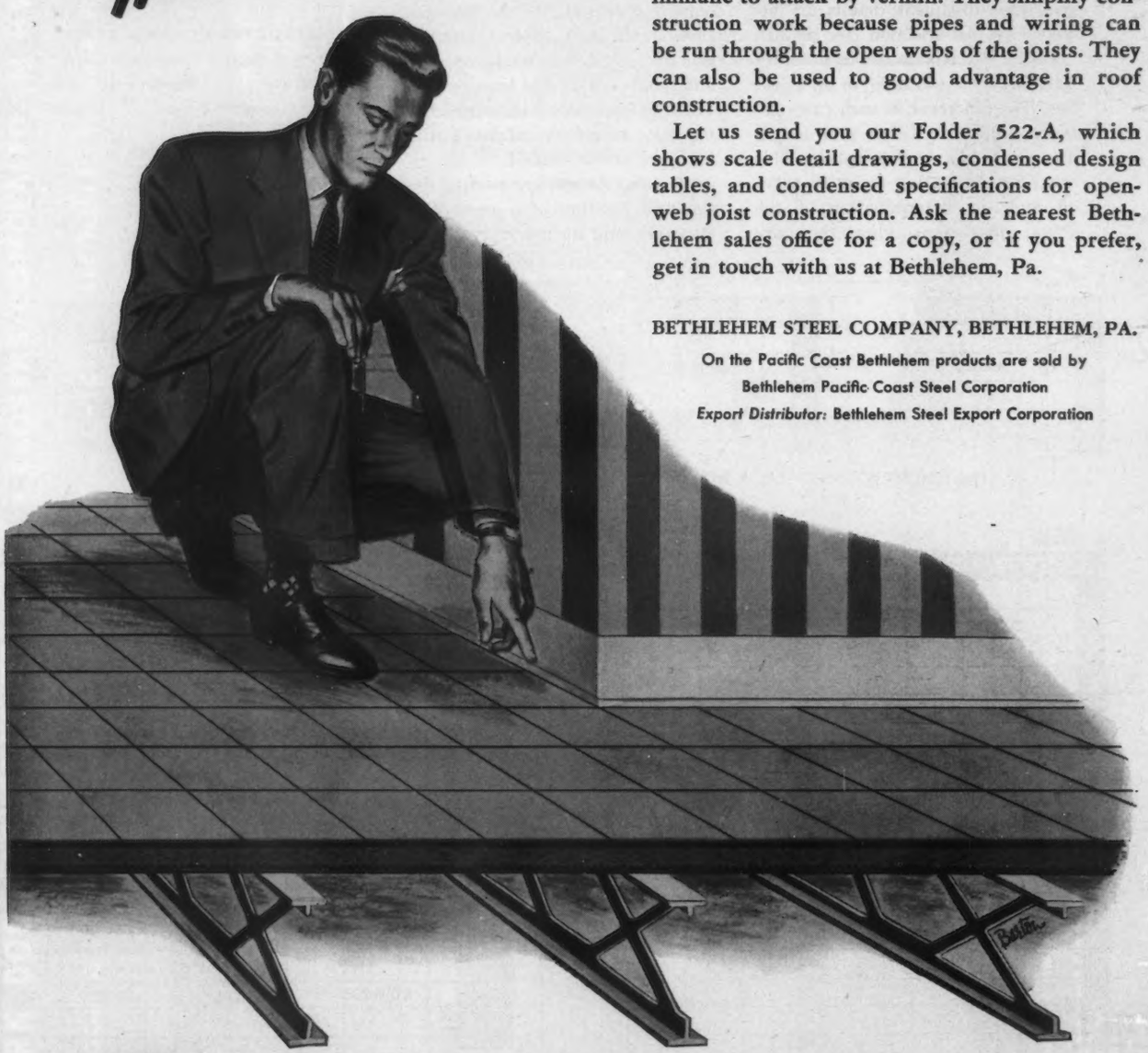
Bethlehem Open-Web Steel Joists are ideal for use in homes and light-occupancy structures because, when combined with concrete floor slab and plaster ceiling, they provide a type of floor construction which can't shrink. Floors built with these joists stay firm and true for the life of the structure.

Bethlehem Open-Web Joists are also noncombustible. They minimize vibration, and are immune to attack by vermin. They simplify construction work because pipes and wiring can be run through the open webs of the joists. They can also be used to good advantage in roof construction.

Let us send you our Folder 522-A, which shows scale detail drawings, condensed design tables, and condensed specifications for open-web joist construction. Ask the nearest Bethlehem sales office for a copy, or if you prefer, get in touch with us at Bethlehem, Pa.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation
*Export Distributor:* Bethlehem Steel Export Corporation



★ BETHLEHEM STEEL ★ **BETHLEHEM OPEN-WEB JOISTS**

# MODULAR COORDINATION: 3

***Prepared with the cooperation of Structural Clay Products Institute***

**STRUCTURAL CLAY TILE**

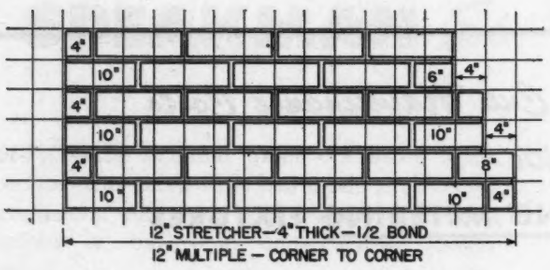
| Nominal Sizes, Inches * | | | |
|---|---|---|---|
| Full Size | | Supplementary Sizes | |
| Height | Length | Height | Lengths |
| 5⅓ | 12 | 5⅓ | 10, 8, 6, 4 |
| | | 2⅔ | 12, 10, 8, 6, 4 |
| | | 4 | 12, 10, 8, 6, 4 |
| 6 | 12 | 6 | 10, 8, 6, 4 |
| | | 4 | 12, 10, 8, 6, 4 |
| | | 2 | 12, 10, 8, 6, 4 |
| 8 | 12 | 8 | 10, 8, 6, 4 |
| | | 4 | 12, 10, 8, 6, 4 |
| 8 | 16 | 8 | 12, 8, 4 |
| | | 4 | 16, 12, 8, 4 |
| 8 | 8 | 8 | 4 |
| | | 4 | 8, 4 |
| 12 | 12 | 12 | 10, 8, 6, 4 |
| | | 8 | 12, 10, 8, 6, 4 |
| | | 4 | 12, 10, 8, 6, 4 |

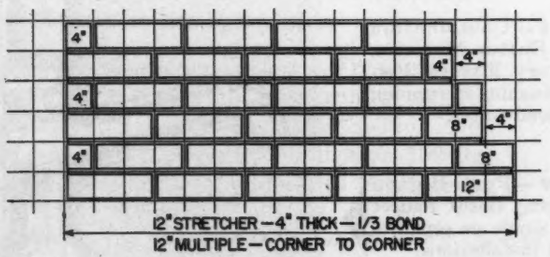
It is impractical for manufacturers to produce all of the sizes listed, particularly in a full range of textures and colors. Many of the nominal supplementary sizes* must be cut on the job, but some, as unglazed tile, are available in special "cutting units." Tiles require a special unit with finished ends for corners. Where 12 or 16 in. units are used, special lengths must be introduced to obtain 4 in. flexibility. Multiples of 6 or 8 in. maintain uniform wall patterns.

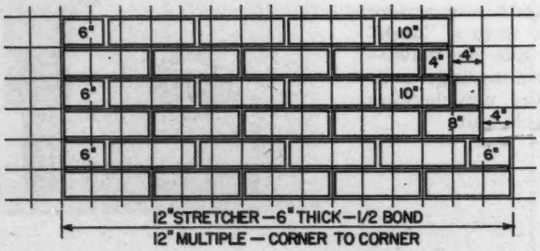
With the 2⅔ in. unit, grid lines coincide with horizontal mortar joints every 8 in., and a 4 in. supplementary unit is required to provide 4 in. flexibility, such as a 4 in. high rowlock header.

Horizontal layouts, including wall openings, involve only 2 and 4 in. multiple dimensions. Vertical nominal dimensions avoid fractions of inches except for the 2⅔ and 5⅓ in. course heights. Since 3rds of an inch are not given on the ordinary foot-rule, 5/16 in. is used for ⅓ in., and 11/16 in. for ⅔ in. The inaccuracy is inconsequential, provided it is not cumulative. Simple rules may be used for determining the location of a grid line with respect to the masonry at any point. This simplifies the checking of course heights, particularly for lintels, where it is usually essential that the head of the opening coincide with a horizontal mortar joint. For example, with brick 2⅔ in. high, alternate grid lines coincide with mortar joints. Any grid line which is an even multiple of 4 in. from the reference line will have the same relative position; any grid line which is an odd multiple will have the alternate position.

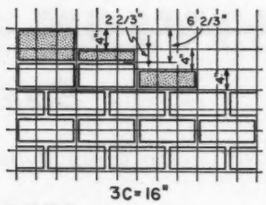
A similar rule for use with the 5⅓ in. high unit is: a grid line which is an even multiple of 8 in. from the reference line will have the same relative position; other grid lines will have one of three alternate positions.

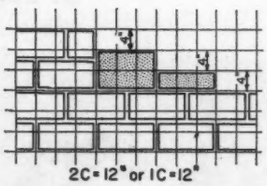


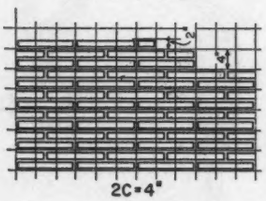



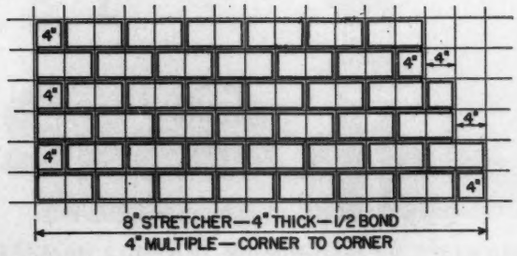




*The ideal of the modular system is to achieve 4 in. flexibility* ***horizontally*** *and* ***vertically.*** *Flexibility in wall lengths is shown at left and below: except for constructions employing 8 in. stretchers, supplementary lengths must be used. For wall heights, right, extra units are needed for all but 2 or 4 in. masonry course heights*



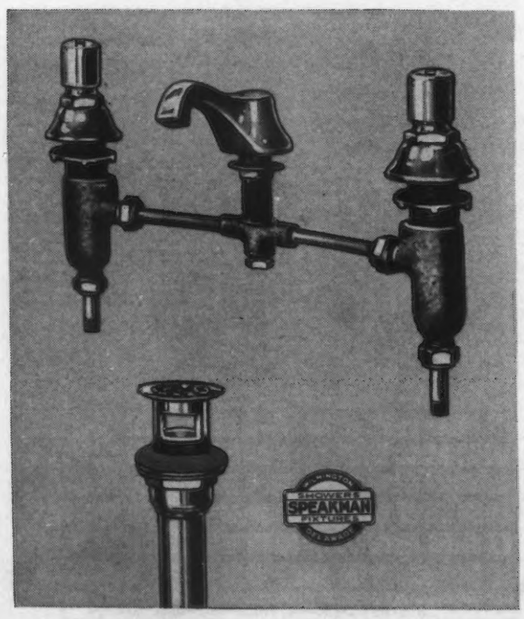



TRADITIONALLY
THE BEST IN BRASS

**No Hammer...**
**No Roar...**
**No Rumble...**




*Stop Water-Waste... Cut Maintenance Costs*
*with*
**SPEAKMAN SELF-CLOSING METERING FIXTURES**

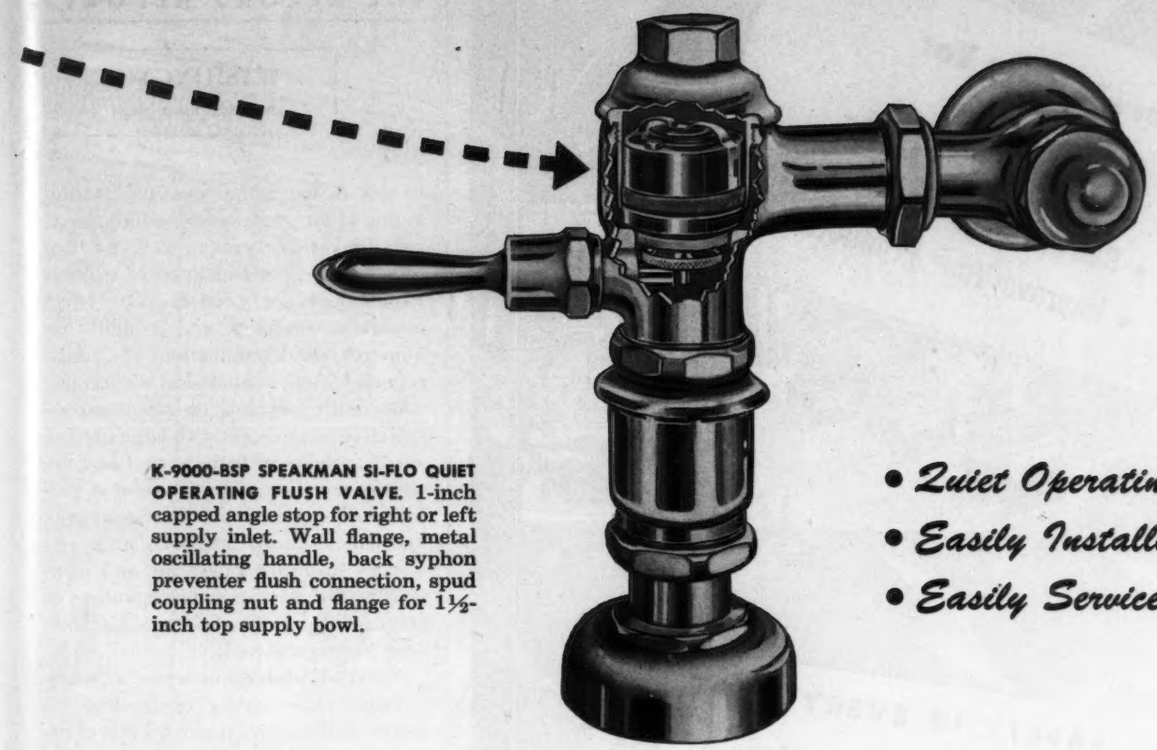



**S-4170** — Combination Push-Button Metering Lavatory Fixture. Permits washing in running tempered water.

**S-4320** — Push-Button Metering Basin Faucet —for single or separate faucet installations.

These fixtures can be regulated to meter water volume from a "dash" to 1½ gals. per valve— non-hammering, non-dripping, non-clogging renewable unit.





**K-9000-BSP SPEAKMAN SI-FLO QUIET OPERATING FLUSH VALVE.** 1-inch capped angle stop for right or left supply inlet. Wall flange, metal oscillating handle, back syphon preventer flush connection, spud coupling nut and flange for 1½-inch top supply bowl.

- *Quiet Operating*
- *Easily Installed*
- *Easily Serviced*

# IN SPEAKMAN *Si-Flo* FLUSH VALVES

**SI-FLO**—the original quiet operating flush valve—the valve that has made architects, engineers, plumbers and owners *quiet-conscious* in bathroom construction today.

Three big advantages recommend *Si-Flo* for economical installation and long-service life in hotels, hospitals, schools, institutions, apartment houses and homes.

1. **SI-FLO whispers, never shouts.** Freedom from annoyance and embarrassment is assured when you specify Speakman *Si-Flo*. Even under supply pressures as high as 100 lbs. per square inch, it eliminates hammering, knocking, line throttling and closing noises. *Si-Flo* stays quiet.

2. **SI-FLO is easily installed.** Adjustable threaded connection between valve body and stop allows ⅜" plus or minus (¾" overall adjustment) thus compensating for slight variations in regular roughing-in of 4¾ inches.

3. **SI-FLO is easy to service.** The compact, long-wearing piston unit—the trouble-free heart of the valve—contains *all* working parts. Replaceable in five minutes, it constitutes a complete repair of the valve.

There's a *Si-Flo* for every type of installation. For complete information send for our booklet S-4 or consult our general Catalog S-46.

It will pay you to install Speakman—traditionally the best in brass—built for strenuous use and long service life.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

*In Our Eighty-first Year*

**SPEAKMAN**

**SHOWERS AND FIXTURES**

**SPEAKMAN COMPANY, WILMINGTON 99, DELAWARE**





## THE RECORD REPORTS

### WASHINGTON

(*Continued from page 24*)

to seek further improvements; determination of structural performance standards for various types of wall and floor construction; determination of stiffness requirements for wood floors to effect economies consistent with livability requirements; determination of design criteria for more economical wood frame walls, with emphasis on structural requirements consistent with large window spaces; studies of flame spread and fire resistance values; determination of performance standards for mastic cements and adhesive used on floors, walls and ceilings to insure longer life and more satisfactory service; development of standards and specifications for low-cost flooring materials.

National Academy of Sciences (quasi-government) — survey of housing research facilities and personnel and of research activities under way and completed.

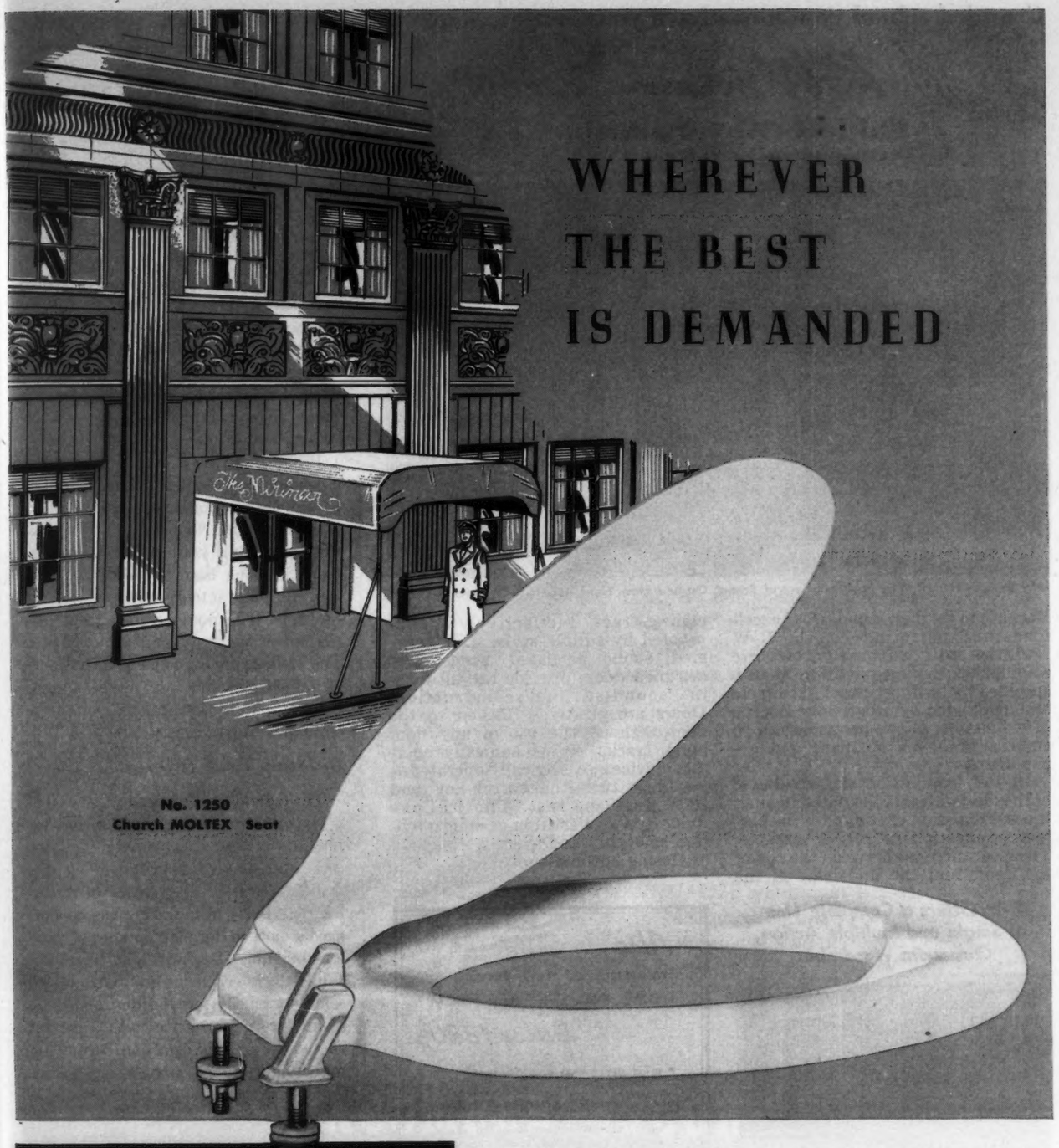
National Bureau of Standards — determination of performance standards for a variety of flashing materials; determination of standards for reinforced lightweight aggregates; determination of the effects of cleaning detergents on various paint vapor barriers; contribution to the development of standards for design and installation of household plumbing systems; determination of standards for small heating systems for use in small houses; adaptation of thermal conductance factors to conditions of practical use in houses; development of design criteria for chimneys used in small houses; development of technique for measurement of heat loss due to ventilation and infiltration, as an aid to design of heating systems.

Public Health Service — development of performance standards for individual sewage disposal systems.

U. S. Weather Bureau — measurement and evaluation of effects of snow loads on various types of roofs in various sections of the country.

Dr. Richard U. Ratcliff, who directs the housing research division of HHFA, said two considerations become central as his program functions in the changing economy: first, the conservation of manpower and materials in housing construction and operation; second, application of controls over housing credit and con-

(*Continued on page 176*)




Church Seats

"THE BEST SEAT IN THE HOUSE"

Architects know that when "nothing but the best will do" they can with confidence specify Church MOLTEX® Seats.

Molded under tons of pressure, their thick ever-lasting surface is practically indestructible; their gleaming beauty is at home in the finest surroundings.

For client satisfaction, perfect sanitation, lasting quality and cost-per-year-of-service economy, they are unequalled.

C. F. CHURCH MFG. CO., HOLYOKE, MASS.
Division of American Radiator & Standard Sanitary Corporation

Serving home and industry

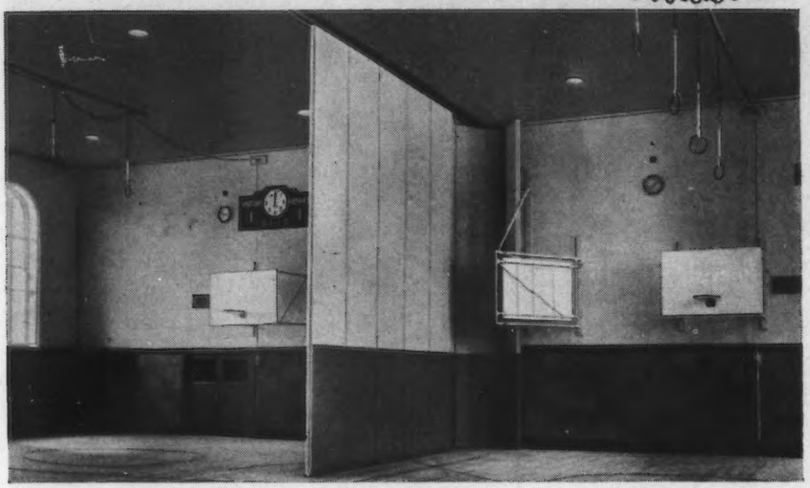
AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

**Crowded school conditions have you in "hot water"?**

*Install* **R-W DeLuxe FoldeR-Way Partitions**

FULLY AUTOMATIC • ELECTRICALLY OPERATED





R-W DeLuxe FoldeR-Way Partition, Central School, Goshen, New York. Robert R. Graham, Architect.

Because of its high standard of excellence and performance, the R-W DeLuxe fully automatic electric soundproof folding partition is now specified by leading School Architects and demanded by progressive Boards of Education as the best solution to current problems of space and expenditure.

In the installation shown above, both side-jambs are insulated against the transmission of sound by the correct application of rubber gaskets. The clearance gap between the top of the doors and the underside of the ceiling-track is effectively soundproofed by rubber seals. Duck-covered, sound insulated, acoustically designed doors provide the ultimate in "sound-stifling" construction. Doors are positively locked to the floor without the use of any floor bolts, tracks, or mechanically operated devices. Electrically operated—you just turn the switch-key and R-W does the rest. The DeLuxe FoldeR-Way Partition goes into motion smoothly and silently—opening or closing automatically!

***R-W Offers a Complete Line of Single and Multiple Action Classroom Wardrobes***



R-W No. 833 Multiple Action-Master Control Door Wardrobe

Richards-Wilcox Classroom Wardrobes are outstandingly popular because they are designed to give maximum space for pupils' wraps without overcrowding—because simplicity of design and installation in wall recess means low cost. Wardrobes are available in Single or Multiple Action-Master Control Door units with chalkboards or cork boards. Each door opening accommodates eight to ten pupils.

***Also...***

**Uninterrupted R-W Service to HOME, INDUSTRY and FARM**

***Since 1880***

- In industry, conveyor systems to solve any overhead handling problem.
- In the home, R-W Silver Streak Vanishing Door Hangers and Aluminum Track afford quick, economical conversion to space-saving Disappearing Doors. Complete hardware for modern overhead garage doors.
- For the farm, barn door hardware up to any size, gable door fixtures, stay rollers, latches, etc; that perform up to par year after year.

*Get all the facts about Richards-Wilcox cost-cutting, space-saving FoldeR-Way Partitions and Classroom Wardrobes now—write today or call your nearby branch office for complete information without obligation.*

Richards-Wilcox Mfg. Co.

A HANGER FOR ANY DOOR THAT SLIDES

AURORA, ILLINOIS, U. S. A. • Branches in all principal cities

1880 1950

OVER 70 YEARS


## THE RECORD REPORTS

### WASHINGTON

(*Continued from page 174*)

struction, based on a sturdy foundation of fact and analysis.

As to how the housing agency got into the research business in the first place, the Director said it was because critical research needs were not being met by the housing industry itself or by other non-governmental means. He promised that as housing research by industry, business, and other private business expands, federal activities will be modified to avoid overlapping and duplication.

Right now the research division is changing its tactics; adjusting activities to the international situation, as Dr. Ratcliff put it. No basic redirection of the program is contemplated. But its scope is being narrowed down to concentrate more intensively upon defense problems. This does not mean the function loses sight of long-range results. The findings are expected to be not only of immediate value but suitable for the broader application to the long-term chronic housing ills as well.

### *Building Code Interest*

The federal housing agency, as well as a multitude of private groups, has expressed interest in the basic building code so recently distributed by the Building Officials Conference of America. The Foley agency long has encouraged a more uniform acceptance of modern building standards and methods. While the government group has issued some statements on the desirability of a standard performance code, it cannot go too far in this direction because of individual product barriers and a wide variety of present state and local applications.

The first printed copies of B.O.C.A.'s basic code were distributed recently. This followed publication June 7 of the abridged building code, which condensed the full code into a version especially acceptable for smaller communities. Both of these codes are of the performance type, permitting use of all materials or methods that meet functional performance standards established in the basic version.

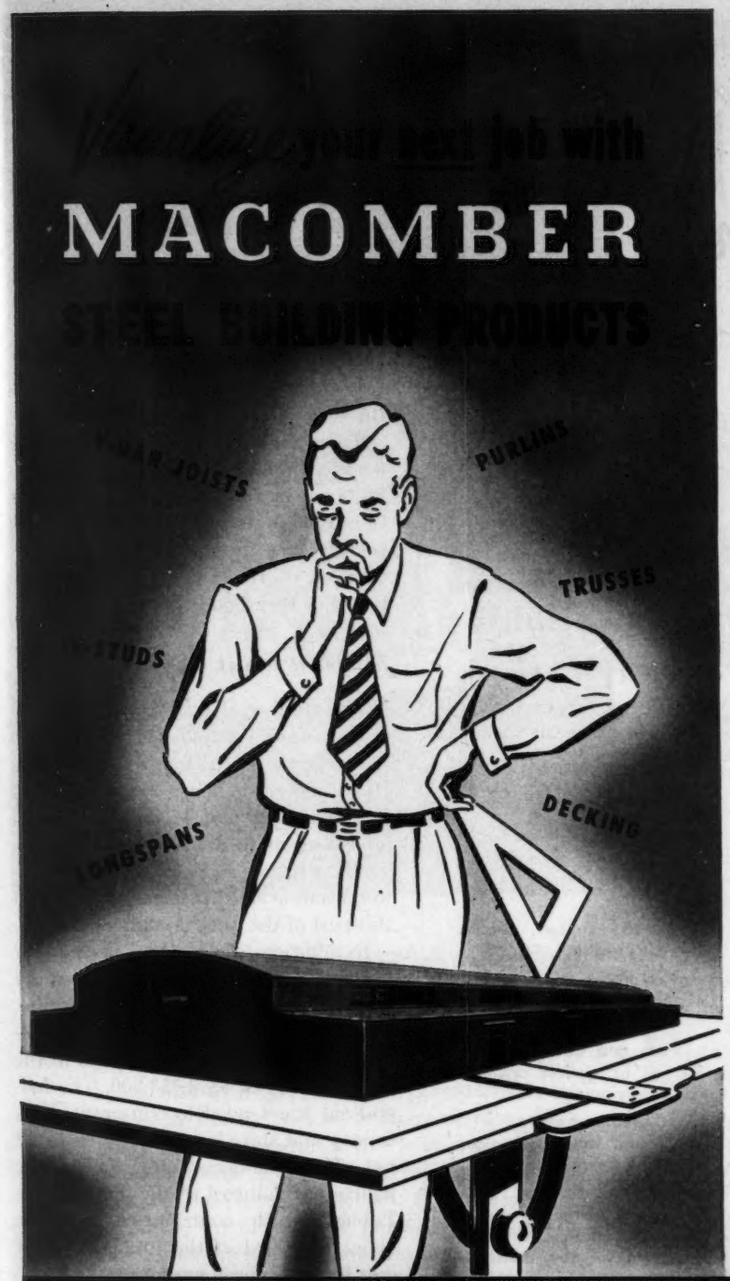
The abridged code already has been adopted by many cities with population ranging from 10,000 to 15,000. Many larger cities have indicated they intend

(*Continued on page 178*)

Visualize your next job with

# MACOMBER

STEEL BUILDING PRODUCTS




For 27 years
Macomber engineers have worked
toward an objective
for Architects and Contractors.

This objective was the reduction
of excess weight and the addition of
structural strength in the design
of the common load bearing members
of a building.

The standardization
of these structural components
into CATALOGED items
was of equal importance.

We do not speak of this source
for advanced design practice in the
solution of your daily needs
as some monument we have erected.

No—its only value is the extent
to which you can use this
specialized knowledge
to realize a profit
in today's close bids.

VISUALIZE your next project
in Macomber products and—war
permitting, Macomber will come
through as scheduled—for one more
satisfied builder. Write us.

## MACOMBER · INCORPORATED

CANTON, OHIO

IN CANADA, SARNIA BRIDGE CO., LIMITED, SARNIA, ONT.
IN MEXICO D. F.—MACOMBER DE MEXICO S. A. CEDRO 500

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

**PRACTICAL DESIGN INFORMATION**
**FOR HOW HIGH, WIDE AND HANDSOME**
**YOU WANT TO BUILD ANYTHING —**
**FROM A SCHOOL TO A SKYSCRAPER**






only Sealuxe BROWNE "Folding-Flue" Windows

offer 100% controllable draft-free ventilation

When opened slightly the SEALUXE-BROWNE Window makes a vertical flue. Fresh air comes in at bottom and foul air goes out at the top. No drafts. No wind-blown rain.



See our catalog in Sweet's Architectural file.

**eliminates "flying" window washer**
Both sides can be safely cleaned from the inside by a maid or porter.

**lasts indefinitely**
No metal-to-masonry contact. Resists tarnish, rust and corrosion.

**long, trouble-free life**
Folds at finger-tip pressure. Stays put regardless of wind pressure.

**shuts out weather and traffic noises**
Closes to a force fit against resilient wool felt weather-stripping.

**more light . . . greater beauty**
Streamlined to admit more light; set off any architectural treatment.

**design flexibility**
Choice of standard or custom in aluminum, stainless steel or bronze. With or without muntins; reversible mullions for any width partition; inside screens; crank operators; remote control operators; with or without stool, sills. Models include: Monumental, Residential, Underwriter-approved and escape-proof Psychiatric "windows without bars."

OTHER SEALUXE PRODUCTS

WINDOWS—Picture, Store Front, Commercial and Monumental Casement, Thermo (insulated) • SOLAR CONTROLS—Fins, Canopies, Shades, Louvres • BUILDING ACCESSORIES—Pilasters, Spandrels, Fascias, Wall Panels, Trim • ENTRANCE ACCESSORIES—Building Directories, etc. • DOOR ACCESSORIES • CROWD CONTROL EQUIPMENT. For more information you are invited to clip and mail the coupon at right.

SEALUXE-Engineered Products are Mirrors in Metals!

MEMBER PRODUCERS' COUNCIL

Please send me more information about SEALUXE—Engineered Products.

NAME

ADDRESS

FIRM

J. P. TRAVIS
President

Universal CORPORATION
6710 DENTON DRIVE
DALLAS 9, TEXAS

DISTRICT SALES OFFICES, AGENTS AND DISTRIBUTORS IN ALL ARCHITECTURAL CENTERS . . .




## WASHINGTON

(*Continued from page 176*)

to adopt the larger, basic code that was just issued. The State of Connecticut is reportedly considering adoption of both the basic and the abridged volumes. These would serve as statewide codes, the abridged version applying to all centers of less than 7500 population, and the larger code to all other cities.

These are the first codes to employ the nomenclature, definitions and classifications recommended by the Joint Committee on Unification of Building Codes. This group is under the chairmanship of W. E. Mallalieu, National Board of Fire Underwriters.

### *Hospital Plant Grows*

The number of hospital construction projects approved under the Hill-Burton Act as administered by the U. S. Public Health Service reached 1432 on August 1. This volume of new construction and improvement to existing hospitals projected a future addition of 69,893 beds to the nation's institutional supply when this part of the work is completed.

In addition, construction of 262 new health centers has been approved by Public Health under the same program. The federal contribution to this vast volume of hospital building will run in the neighborhood of $358,753,800. The federal aid is extended to non-profit, city, county and state hospitals which could not afford to undertake the work if they had to pay full cost of the project. The Public Health contribution averages about one-third of the total estimated cost for all projects approved.

Of the 1432 jobs now listed, 196 hospitals were in operation as of August 1. Another 806 were under construction and 430 were in the initially approved category.

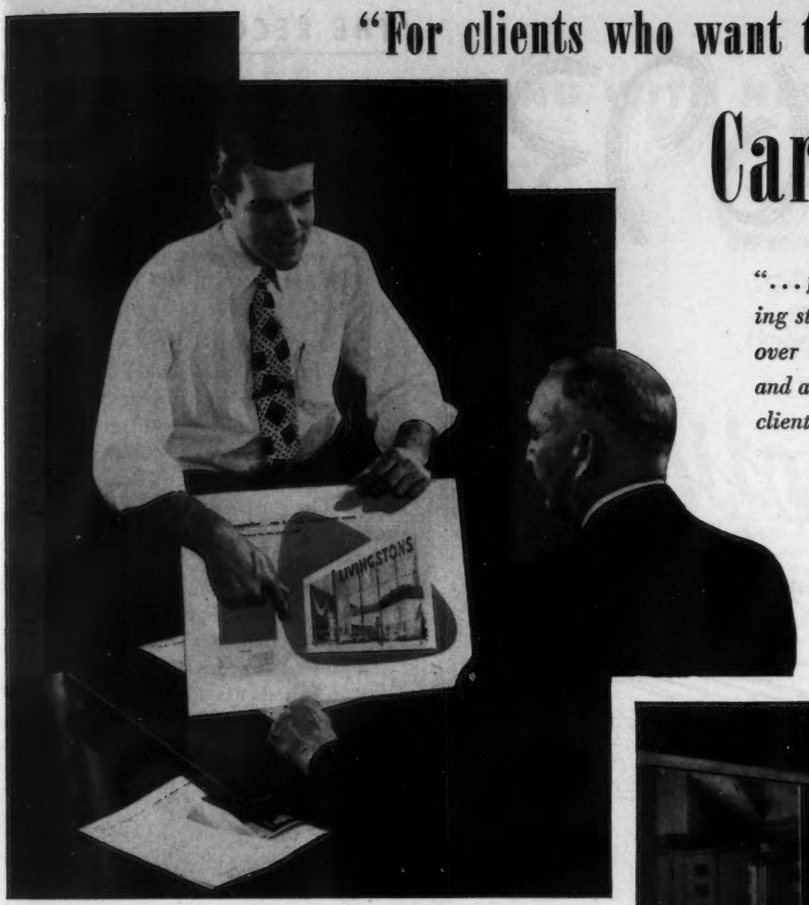
The heaviest volume continued to center in the southern states.

### *Shorts*

• The Producers' Council predicted production of building materials and equipment would break all records during 1950. Except where work stoppages have interfered, output has continued on a high level since spring and early summer. The high rate of production can be

(*Continued on page 180*)

# "For clients who want the very best, I specify Carrara Glass!"




*"... for I know that Carrara is an outstanding structural material. It has proved itself over the years as a high quality, versatile and adaptable product. Actually it gives the client more for his money ..."*

THESE are some of the reasons why leading American architects specify Carrara Glass to perpetuate their creative designs. Here is a product that is finely machined. It has a closely knit structure. It will not check, craze, fade, stain or discolor with age. And it is a *permanent* material, with a rich, flawless, brilliant surface. Precision manufactured, it is free from warpage. Its joints are true and even; there is no lippage. Carrara Glass is easily handled. It can be surface decorated for ornamental purposes. It is available in ten attractive colors and in a wide range of thicknesses.

Why not give your clients the very best in wall materials? Specify Carrara Structural Glass.



*Architects: Richard Hawley Cutting Associates, Cleveland, Ohio.*

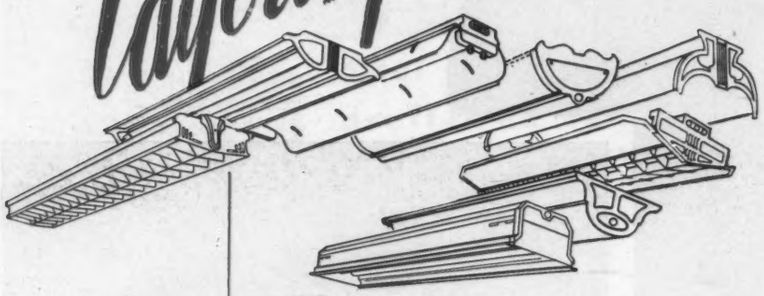
Carrara — *the quality structural glass*

PPG

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

1,427,693 layout possibilities*



with

GUTH FLUORESCENT FIXTURES

*

we're still countin'. Won't you help us?

Our line is so complete that there is nothing you can't lay out with it. Send for our NEW CONDENSED CATALOG 47-J. It lists commercial, institutional, and industrial luminaires—every one engineered for better lighting at lower cost.




LIGHTING

THE EDWIN F. GUTH COMPANY / ST. LOUIS 3, MISSOURI

Leaders in Lighting Since 1902

## THE RECORD REPORTS

### WASHINGTON

(*Continued from page 178*)

maintained until supplies and requirements come into balance this fall, said Charles Mortensen, P.C.'s managing director.

• President Truman signed the bill extending for another five years the period for allocation and expenditure of funds under the Federal Airport program. The authorization now extends to June 30, 1958. The purpose was to permit long-range planning necessary for the design and construction of new airports and expansion of existing airfields. D. W. Rentzel, former Civil Aeronautics Administrator, said the agency has been able to fix the present and ultimate airport requirements for all communities that have or are likely to have scheduled air carrier service by 1955. It now is possible to program intelligently and with a certainty that there will be no economic waste, the available federal-aid funds for airport development, he said.

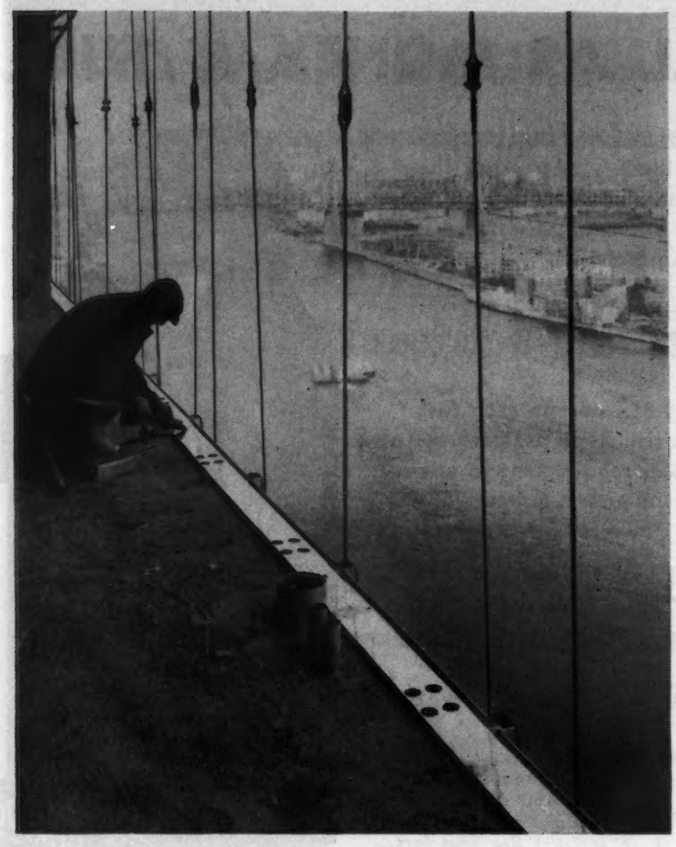
• The new U. S. Civil Defense plan uncorked by the White House had this to say on engineering services:

Before attack, the engineering services will set up precautionary measures to safeguard water, gas, electricity and food supplies. The service will assist in the shelter program, help to train and equip the rescue forces, and control passive defense measures such as blackout and camouflage. After attack, the engineering service would restore emergency utility service, clear rubble, handle demolition for the fire service and aid the rescue service where heavy equipment is needed.

• George J. Bott, a Marylander, was appointed general counsel of the National Labor Relations Board, succeeding Robert N. Denham, eased out of office by President Truman because of his long-standing conflict with the labor board in administration of the Taft-Hartley Act. Fire from Capitol Hill immediately following the Denham dismissal was inevitable. Said Rep. Gossett (D-Tex.), "Apparently the Taft-Hartley Act is now to be misconstrued and emasculated, or wholly ignored." Bott said he

(*Continued on page 184*)

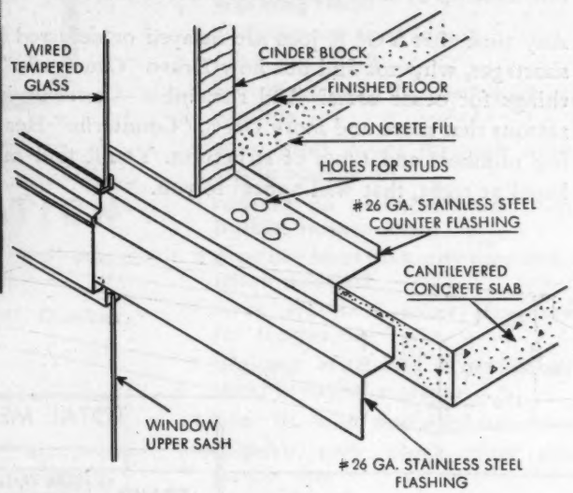
# ENDURO—FLASHING WITH NEW IDEAS





**UN SECRETARIAT BUILDING**
*—39 Stories High—*
*and Every One*
*Flashed with* **ENDURO**

Rising high above the East River in New York City is this unusual structure with the two narrow sides of marble, the two wide sides a myriad of glass windows. To retain condensate and leakage, to divert it into window weep holes and thus prevent drainage down the mullions, ENDURO was pre-formed and soldered into continuous strips on every floor. The sketch below shows details of installation. The photo at the left demonstrates soldering of four-foot sections into continuous spandrel flashing. Holes shown accommodate vitreous ferrules of Nelson studwelds used to anchor windows.




There seemingly is no limit to the useful applications for Republic ENDURO Stainless Steel in architectural design, in building construction.

Here you see it used for flashing between floors of a famous building. You probably have seen it used, too, for mullions and spandrels, windows, curtain wall panels, entrance doors, stair railing, elevators, roof drainage materials, spires, marquees and countless other component parts of a building.

That's because ENDURO is so versatile . . . because it gives the designer a vast medium for expressing his ideas . . . because it gives the engineer a sound construction material.

ENDURO ranges in finish all the way from a soft, satiny lustre to the brightness of a polished mirror. It may be used both for harmonizing and contrasting effect. It cleans easily. It is sanitary. Its striking beauty lasts indefinitely.

Functionally, it is tough and strong—with a high strength-to-weight ratio that permits safe use in thin sections. It resists rust and corrosion. It is equally strong at elevated or sub-zero temperatures. It cuts maintenance and replacement costs to lowest levels.

ENDURO is easily obtainable—readily workable. Distributors carry stocks and competent fabricators are located in principal cities.

Now, wouldn't you like to know more about this "magic metal" and the ideas it may bring to you? See Sweet's—or write us.

REPUBLIC STEEL

Enduro® STAINLESS STEEL

**RUST-RESISTANT • CORROSION-RESISTANT • HEAT-RESISTANT • ATTRACTIVE • SANITARY • EASY TO CLEAN**
**EASY TO FABRICATE • STRONG • LONG-LASTING • LOW IN END COST • What more can be desired in a material?**

**REPUBLIC STEEL CORPORATION** • *Alloy Steel Division, Massillon, Ohio* • **GENERAL OFFICES, CLEVELAND 1, OHIO**
Export Department: Chrysler Building, New York 17, N. Y.

# DRAVO HEATERS...

## AS WELL AS MONEY....FUEL...

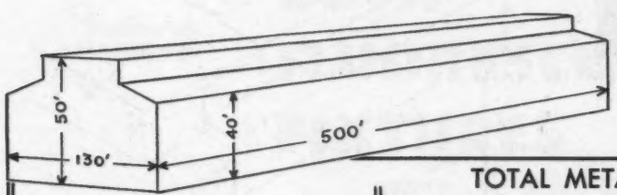
Heating system steel needs *can* be slashed from 50% to 70% for the representative open-space industrial structure shown below . . . by using the direct-fired warm air heating method with Dravo "Counterflo" Heaters! This conservation, of vital importance today, adds another to the long list of economies in money, fuel and labor effected by this heating method.

The chart below gives the detailed comparative story. Every system is equivalent in Btu output. Steel requirements for the 13 methods have been carefully and conservatively calculated.

It will be noted that Dravo Heaters not only take LESS steel in each fuel classification . . . but that the HIGHEST steel requirement in a Dravo installation is almost 50% less than the LOWEST steel requirement in any other system. Of special significance is the contrast in *pipe* required. Jobs now held up by slow pipe deliveries can MOVE . . . if Dravo Heaters are used!

Any time that YOUR jobs are delayed or deferred because of steel or pipe shortages, why not find out how Dravo "Counterflo" Heaters are expediting things for other users? And remember — steel savings are just *one* of the reasons that more and more Dravo "Counterflo" Heaters are heating increasing numbers and types of structures. You'll find many other good reasons listed at right, that will appeal to you.




*Each heating system compared below was sized to make up a calculated 12,000,000 Btu heat loss in this representative industrial building.*

TOTAL METAL REQUIREMENTS FOR VARIOUS HEATING SYSTEMS

| COMPONENT | GAS FIRED | | | | | OIL | |
|---|---|---|---|---|---|---|---|
| | DRAVO WARM AIR | HIGH PRESSURE CONVENTIONAL WATER TUBE BOILER | HIGH PRESSURE PACKAGED STEAM GENERATOR | LOW PRESSURE CONVENTIONAL WATER TUBE BOILER | LOW PRESSURE PACKAGED STEAM GENERATOR | DRAVO WARM AIR | HIGH PRESSURE CONVENTIONAL WATER TUBE BOILER |
| BASIC HEAT GENERATORS | 26,400 | 38,000 | 62,000 | 38,000 | 62,000 | 26,400 | 38,000 |
| PIPING—Oil—Steam Boiler Room—Gas | 9,096 | 15,490 | 15,490 | 35,308 | 35,308 | 4,352 | 15,790 |
| TANKS—Oil—Blow-off Condensate | | 3,500 | 1,500 | 1,500 | 1,500 | 13,000 | 16,500 |
| UNIT HEATERS including Traps & Starters | | 21,240 | 21,240 | 21,240 | 21,240 | | 21,240 |
| STACKS & BREECHING | 1,200 | 4,000 | 400 | 4,000 | 400 | 1,200 | 4,000 |
| PUMPS—Fuel Oil Auxiliary Oil—Boiler Feed | | 1,000 | 1,000 | 1,000 | 1,000 | 400 | 1,400 |
| STOKERS & FANS— including Dust Collectors Fuel Oil Preheaters | | | | | | | 2,000 |
| STRUCTURAL STEEL Boiler House Foundation Reinforcing | | 7,000 | 2,000 | 7,000 | | | 7,000 |
| **TONS of STEEL REQUIRED** | DRAVO 18 | 45 | 52 | 54 | 61 | DRAVO 23 | 53 |

# ..CONSERVE STEEL

## . AND MAN HOURS

**DISTRIBUTION PIPING AND DIFFUSERS COMPLETELY ELIMINATED**

**LEAST STEEL PER 1,000,000 BTU OUTPUT**

**NO VALVES, TRAPS OR FITTINGS**

**STAINLESS STEEL CHAMBER ELIMINATES REPLACEMENT**

# DRAVO CORPORATION

**HEATING DEPT., DRAVO BUILDING, PITTSBURGH 22, PA.**
**Sales Representatives in Principal Cities.**
**Mfd. and Sold in Canada by Marine Industries, Ltd., Sorel, Quebec.**

WITH IDENTICAL 12,000,000 Btu LOAD

| FIRED → | | | ← COAL FIRED | | |
|---|---|---|---|---|---|
| HIGH PRESSURE PACKAGED STEAM GENERATOR | LOW PRESSURE CONVENTIONAL WATER TUBE BOILER | LOW PRESSURE PACKAGED STEAM GENERATOR | DRAVO WARM AIR | HIGH PRESSURE CONVENTIONAL WATER TUBE BOILER | LOW PRESSURE CONVENTIONAL WATER TUBE BOILER |
| 62,000 | 38,000 | 62,000 | 27,450 | 38,000 | 38,000 |
| 15,790 | 35,608 | 35,608 | | 14,990 | 34,808 |
| 14,500 | 14,500 | 14,500 | | 3,500 | 1,500 |
| 21,240 | 21,240 | 21,240 | | 21,240 | 21,240 |
| 400 | 4,000 | 400 | 1,200 | 4,000 | 4,000 |
| 1,000 | 1,400 | 1,000 | | 1,000 | 1,000 |
| | 2,000 | | 23,850 | 15,000 | 15,000 |
| 2,000 | 7,000 | | | 7,000 | 7,000 |
| **58** | **62** | **67** | DRAVO **26** | **52** | **61** |

***DRAVO HEATERS HAVE EARNED HIGHEST ACCEPTANCE BECAUSE THEY***

- *use less steel*
- *eliminate distribution piping*
- *have lower initial cost*
- *are very efficient in fuel consumption*
- *concentrate comfort heat at the working level*
- *reduce roof heat losses*
- *burn gas or oil*
- *are available in coal burning models*
- *save man hours through automatic operation*
- *require no attendant and negligible maintenance*
- *produce heat instantly and ONLY when needed*
- *have stainless steel chambers for longer life*
- *prevent rust and stain conditions in metal storage*
- *bear UL label and AGA approval*
- *require only stack, fuel and power line*
- *are portable and readily moved*
- *provide year 'round ventilation*
- *are ideal for process drying*
- *avoid freeze up worries, leaky traps, valves, etc.*
- *are shipped complete and flame tested*
- *can be installed on floor, wall or roof*
- *can be mounted upside down or horizontally*
- *eliminate ductwork with 150 ft. air throw*

***WRITE TODAY FOR BULLETIN HI— 23—8***

## THE RECORD REPORTS

(*Continued from page 180*)

expected to get along fine with the five-man labor tribunal.

• The Associated General Contractors of America reiterated the assurance that the construction industry has ample capacity to carry out all defense construction with maximum speed and efficiency. As a result of the stimulus of the greatest peacetime program in history, forces are available and mobilized for carrying on the present program and for immediate defense work, the governing and advisory boards stated. For World War II the industry completed projects valued at more than $49 billion. . . . Glenway W. Maxon, Dayton, Ohio, 1950 vice president of A.G.C., has been nominated for president in 1951, succeeding Walter L. Couse, Detroit.





***Plan to Hide Cooling Towers and Evaporative Condensers Indoors . . . Specify Compact Marlo Units***



*Marlo Evaporative Condenser*

***Other Marlo Advantages:***

**QUIETER OPERATION**—Marlo Units feature resilient-mounted motors and pumps, plus mastic-coated interior surfaces that deaden sound.

**TOP WATER SAVINGS**—Through efficient recycle cooling, Marlo Evaporative Condensers and Cooling Towers save up to 95% of normal cooling water demand.

**LONGER LIFE** — Marlo Units are protected four ways against corrosion—with hot dip galvanizing, rust-inhibiting paint, asbestos-asphalt interior coatings, and the exclusive Marlo "Lektro-Tektor."

MARLO HEAT TRANSFER Since 1925

25 years CONTINUOUS LEADERSHIP

*Write for full details for "roughing in" for your specific requirements.*

Marlo COIL CO. • 6135 Manchester Rd. • St. Louis 10, Mo.


## ON THE CALENDAR

*Nov. 2–4:* Annual Convention of the New York State Association of Architects — Hotel Syracuse, Syracuse, N. Y.

*Nov. 3–12:* 25th Arizona Arts Exhibition, sponsored by the Phoenix Fine Arts Assn. — Arizona State Fair, Phoenix, Ariz.

*Nov. 8, 15, 22 and 29, Dec. 6 and 13:* Last six of ten conferences, *Forum for Modern Living*, sponsored by the Architectural League of New York. *Nov. 8* — Is Furniture Functional or Decorative; *Nov. 15* — The Architect and Industrial Designer; *Nov. 22* — New Textiles and Wall Coverings; *Nov. 29* — Planting and Modern Design; *Dec. 6* — Lighting and Color in the Home; *Dec. 13* — Widening Horizons. All conferences are scheduled from 8:30 to 10:00 p.m. — The Architectural League, 115 E. 40th St., New York City.

*Nov. 9–11:* Annual Convention, Louisiana Architects Association, and Annual Meeting, Chapter Officers of the Gulf States District, The American Institute of Architects — New Orleans, La.

*Nov. 12–19:* 43rd Annual Convention, National Association of Real Estate Boards, and First Annual National Realtors' Exhibition — Municipal Auditorium, Miami Beach, Fla.

*Nov. 22–Jan. 28:* "Good Design," an exhibition of the best designs in home furnishings for the year 1950 as chosen by the Museum of Modern Art Selection Committee — The Museum of Modern Art, 11 W. 53rd St., New York City, and The Merchandise Mart, Chicago.

*Nov. 27–Dec. 2:* 19th National Exposition of Power and Mechanical Engineering — Grand Central Palace, New York City.

*Dec. 1–2:* Great Lakes Regional Seminar, the American Institute of Architects — Oliver Hotel, South Bend, Ind.

*Jan. 15–18:* Plant Maintenance Show and Conference on plant maintenance techniques — Auditorium, Cleveland.

*Jan. 17–Mar. 18:* Exhibition of prize-winning designs from Lamp Competition — Museum of Modern Art, 11 W. 53rd St., New York City.

*Jan. 18–20:* Seventh Annual National Technical Conference, Society of Plastics Engineers, Inc. — Hotel Statler, New York City.

*Jan. 21–25:* Seventh Annual Convention, National Association of Home Builders — Stevens and Congress hotels, Chicago.

(*Continued on page 186*)

# *Here's a real "mechanic's garage"*

## radiant heating with National Steel Pipe assures warm floors . . . maximum comfort . . . at low cost



● The Kuykendall Chevrolet Company garage, in Lubbock, Texas, is skillfully designed with two important things in mind: High efficiency, for low operating cost; and maximum comfort, for higher worker output.

You can't beat radiant heating for attaining such results. It provides warm floors and uniform, comfortable temperatures throughout—ideal for garage work. Radiant heating eliminates above-floor heating units and makes the entire working area available. There are no obstructions, no hot spots, no cold areas or damp floors to handicap operations. These advantages have lead to the increasing use of radiant heating in modern garage construction.

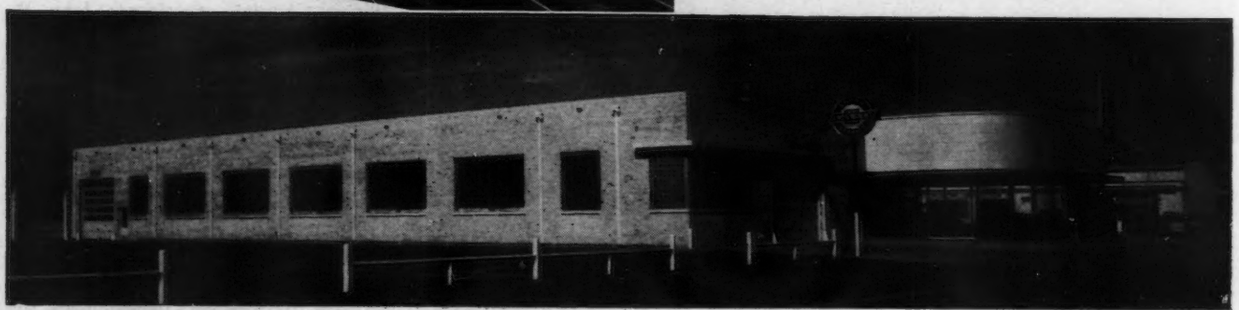
*Steel* pipe is unequalled for radiant heating installations. It's strong and ductile for easy bending. It's ideal for making welded joints. And steel pipe is so strong that it's hard to damage during installation. Best of all: it's durable in service and economical to use. When you buy National Steel Pipe, you're buying the same reliable steel pipe that has been the standard for conventional heating for more than sixty years.

If you are planning a radiant heating installation in a garage, store, terminal, factory, warehouse or plant, be sure to get all the advantages of using National—world's largest selling pipe.

Write today for our free 48-page book on Radiant Heating. It includes data for estimating heat losses, designing coil systems for floor and ceiling installations, typical coil patterns, testing procedures, fitting resistances, insulating techniques, pipe data and heat transmission tables. Ask for Bulletin No. 19. National Tube Company, Frick Building, Pittsburgh 19, Pa.

**NATIONAL TUBE COMPANY, PITTSBURGH, PA.**

COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



USS

**NATIONAL Steel PIPE**

UNITED STATES STEEL

## THE RECORD REPORTS

(*Continued from page 184*)

### OFFICE NOTES

• Harold E. Diamond, A.I.A., announces the opening of his office for the practice of architecture at 150 Bay St., Staten Island 1, N. Y.

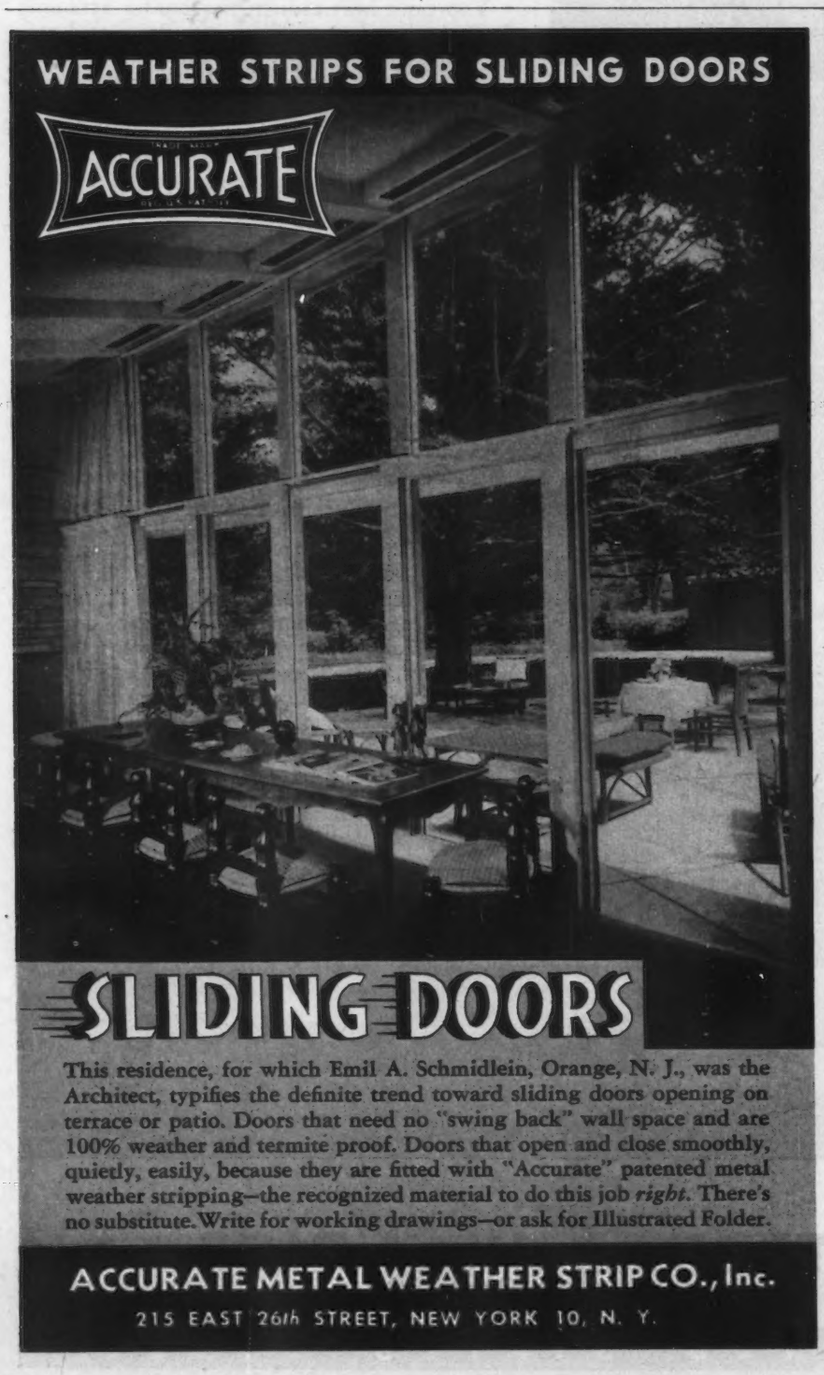
• John W. Harris Associates, Inc., builders with headquarters in New York, have reopened offices in Paris to offer technical assistance and building management services to organizations interested in obtaining American construction experience for their building projects.

• Edgar Tafel, A.I.A., announces the removal of his architectural office to 14 E. 11th St., New York 3, N. Y.

• Stone and Webster Engineering Corp. announces the formation of a Canadian subsidiary, Stone & Webster Canada Ltd. The Canadian company, with present offices at 50 King St. W., Toronto, Ont., has Alfred T. Krook as president. Mr. Krook was formerly district manager of the Stone & Webster Engineering Corp. for the Southwestern area, with headquarters in Houston, Tex. John W. McKee of Toronto is chairman of the Board of Directors.

• Arnold A. Weitzman, Architect and Engineer, has moved his offices to 508 Hammond Bldg., Detroit 26, Mich.

• The office of Robert McKean, Industrial Design, has new headquarters at 32 E. 57th St., New York 22, N. Y.


This residence, for which Emil A. Schmidlein, Orange, N. J., was the Architect, typifies the definite trend toward sliding doors opening on terrace or patio. Doors that need no "swing back" wall space and are 100% weather and termite proof. Doors that open and close smoothly, quietly, easily, because they are fitted with "Accurate" patented metal weather stripping—the recognized material to do this job *right*. There's no substitute. Write for working drawings—or ask for Illustrated Folder.

ACCURATE METAL WEATHER STRIP CO., Inc.
215 EAST 26th STREET, NEW YORK 10, N. Y.


### ELECTIONS APPOINTMENTS

• Ralph Walker of New York, president of the American Institute of Architects, has been named chairman of the Subcommittee on Construction Mobilization recently organized by construction industry leaders to cooperate with the federal government on national security problems in the field. Another subcommittee, on Construction Credit, is headed by Francis G. Addison Jr. of Washington, president of Security Savings and Commercial Bank. Both groups are subcommittees of the Construction-Civic Development Committee of the Chamber of Commerce of the United States, of which Norman P. Mason of North Chelmsford, Mass., is chairman.

• Officers of the Architects' Association of Illinois elected at the recent quarterly meeting are: Edward A. Kane (Southern Illinois Chapter), president; John R. Fugard Jr. (Chicago Chapter), vice president; Edgar E. Lundeen (Central Illinois Chapter), secretary-treasurer.

• Representing the American Institute of Architects at the International Union of Architects in Paris October 2 were President Ralph Walker and Ernest A. Grunsfeld of Chicago.

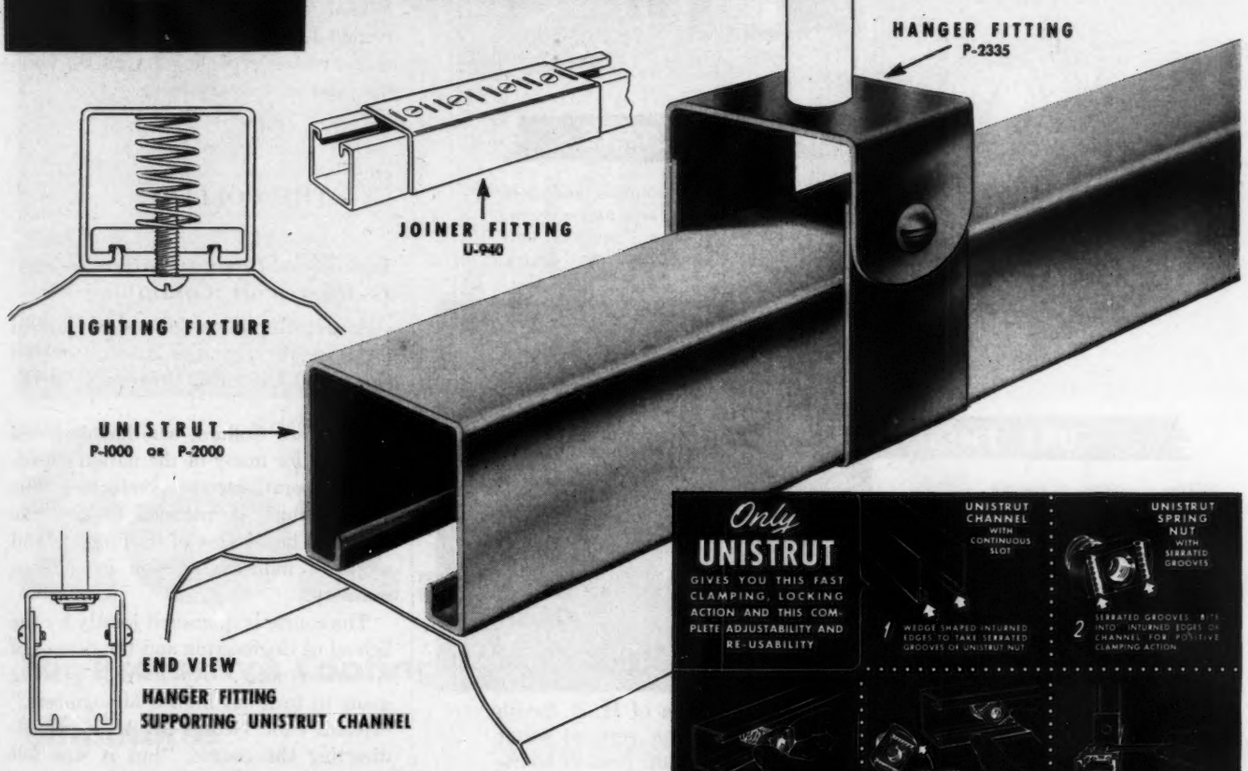
• Hugh M. Hughes, president of the Building Trades Employers Association of New York City, has named Perry S. Dewey, third vice president, as chairman of the committee to arrange for the 55th annual meeting of the Building Industry Employers of New York State.

(*Continued on page 188*)




# For Perfect Alignment, Safety and Low Cost USE UNISTRUT

***The Completely Modern Method of Supporting Fluorescent Fixtures!***







Unistrut assures perfect alignment, requires fewer hanger stems and canopies, is completely adjustable, saves installation time, gives added safety and improved appearance. Unistrut is fully tested and proved by contractors on thousands of installations demanding the finest in lighting.




*Prompt Delivery from Warehouse Stocks in Principal Cities—consult your Telephone Directories*

U. S. Patent Numbers
2327587 2363382
2329815 2380379
2345650 2405631
Other patents pending

The World's Most Flexible All-Purpose Metal Framing

UNISTRUT PRODUCTS COMPANY

1013 W. WASHINGTON BLVD. • CHICAGO 7, ILLINOIS

***Free Copy of Unistrut Bulletin!***



**UNISTRUT PRODUCTS COMPANY**
**1013 W. Washington Blvd., Chicago 7, Illinois, Dept. R 11**

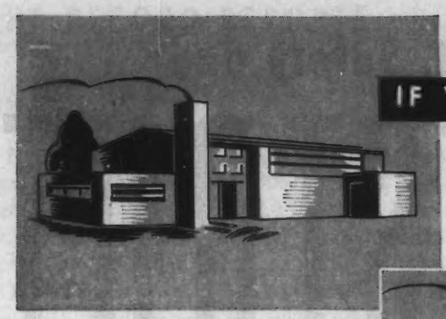
**Please send me your Fluorescent Fixture Support Bulletin No. FF-3, without obligation.**

Name_____

Company_____

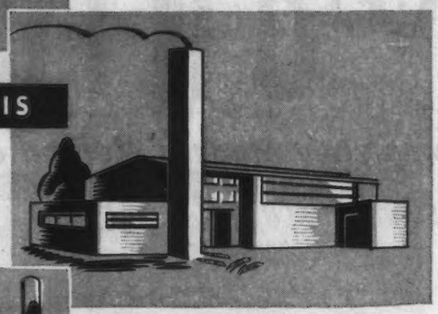
Address_____

City_____ Zone_____ State_____



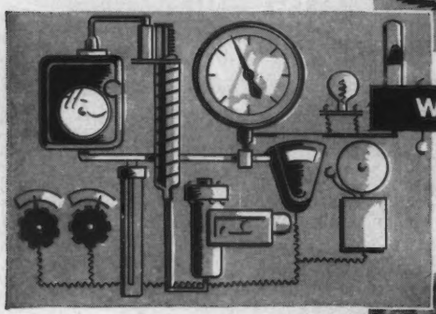
IF YOU WANT THIS

The modern functional school is characterized by trim lines and concise design . . . a low chimney.



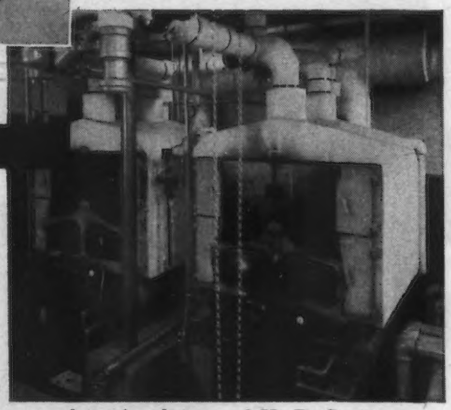
INSTEAD OF THIS

Conventional types of horizontal, return-flue or tube boilers require tall, long-draft chimneys out of keeping with building style.



WITHOUT THIS

Complicated controls and noise of operation are necessary adjuncts when a "package unit" boiler is used with a low chimney.



USE THIS

H. B. Smith *low-draft* cast iron boilers meet all heating requirements without tall chimneys or extra controls. This installation is in a Connecticut school.

Minimum draft resistance is assured in the design of H. B. Smith boilers. The hot gases rise between the gray iron vertical water tubes before passing into the side flues. Maximum heat is transferred from the gases to the water in the tubes.

Boilers of the return-flue, or long-fire-tube type, require stronger draft — call for tall chimneys or mechanical draft with elaborate controls . . . none of which are needed with H. B. Smith low-draft boilers.

Result? Low chimneys and freedom from noise, vibration or the danger of draft-control instrument failure. Add space saving, extra long life, economy of operation, low maintenance costs—and sectional construction features that permit the boiler to *grow with the need* — and you see why architects, engineers and contractors recommend H. B. Smith Boilers with full confidence.



H. B. Smith

CAST IRON BOILERS

THE H. B. SMITH CO. INC., WESTFIELD, MASS.

*Most complete line in the world of cast iron boilers for heating*


## THE RECORD REPORTS

(*Continued from page 186*)

The meeting is scheduled Dec. 14–16 in the BTEA clubrooms, 2 Park Ave.

• Paul Bird of New York has been named editor of *Art Digest*, succeeding Peyton Boswell Jr., who died June 23. A former member of the staff of *Art Digest*, Mr. Bird has recently been with the Port of New York Authority.

• Philip J. Cruise has been named chairman of the New York City Housing Authority to fill the vacancy left by the departure of Maj.-Gen. Thomas F. Farrell for active military service. Gerald J. Carey has been named executive director, replacing James W. Gaynor, also on military leave.

## AT THE COLLEGES

### *Industrial Design Course Is Offered at Columbia*

A course in industrial design planned for graduate engineers is being offered this fall at Columbia University for the first time.

Francesco Collura, who has designed products for many of the nation's leading corporations, is conducting the course, which is intended to give the student a broad view of the function and scope of industrial design in modern industry.

The course is sponsored jointly by the School of Engineering and the School of General Studies. "No attempt is being made to turn out industrial engineers," explains Prof. George M. Allen, who is directing the course, "but it was felt that engineers today should at least know the fundamentals of this important new field."

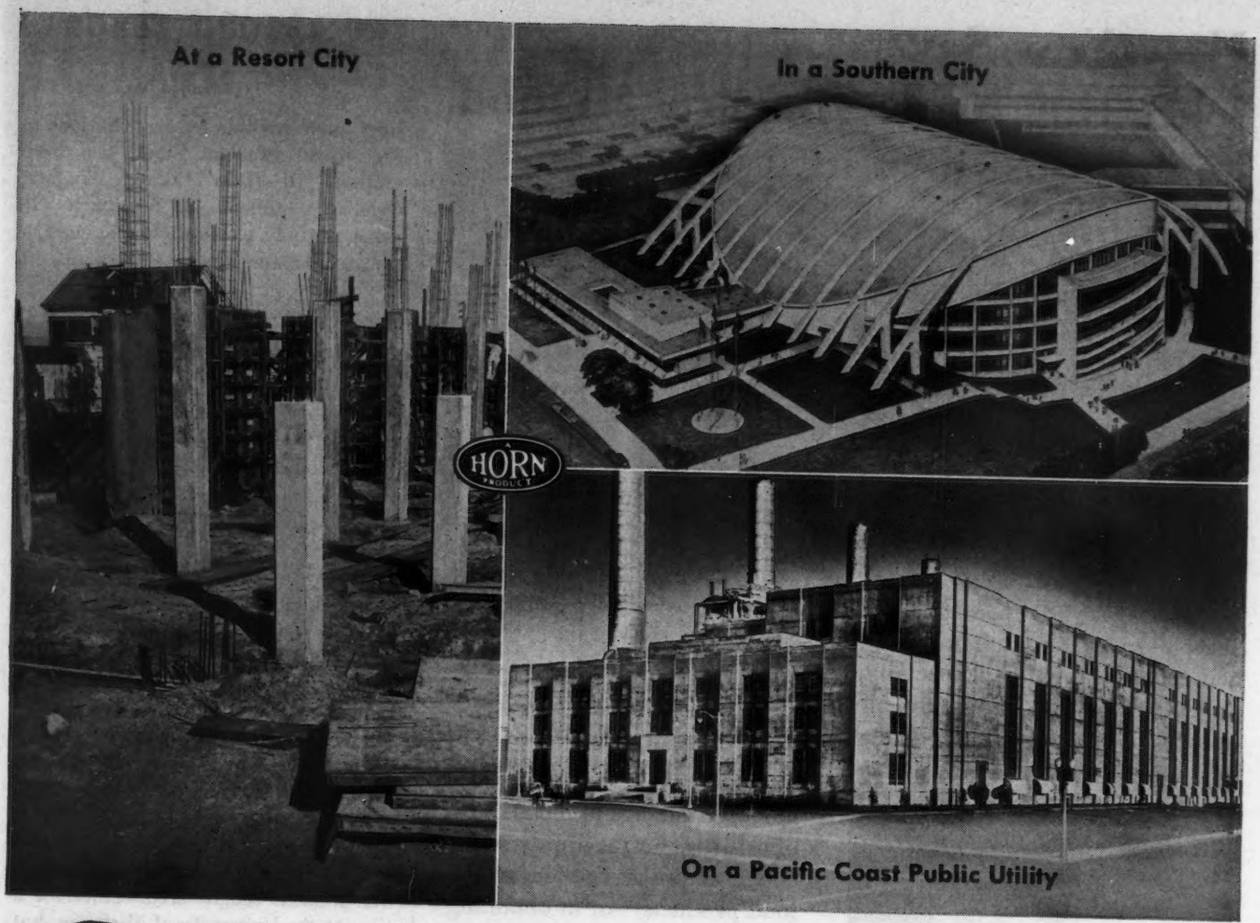
### *Georgia Tech Initiates Exchange Scholarships*

Georgia Institute of Technology has entered into an exchange scholarship plan with a foreign university for the first time in its 66-year history.

Arthur Franklin Beckum Jr., who received his B.S. in Architecture with highest honor last June from Georgia, is the first recipient of the scholarship to Stuttgart Institute of Technology in Germany. He plans to study European architecture.

The one-year Georgia Tech scholar-

(*Continued on page 190*)




# formfilm

## For Protective Coating of Plywood Forms

**eliminates**
**oil staining**
**and reduces rubbing**
**costs**

***All Over America Contractors Report***

- Increased speed of form handling
- Increased form use without recoating
- Increased life of forms
- Eliminates all disadvantages of oil or oil deposits on concrete

***Satisfied Users in Salt Lake City say:***

ALFRED BROWN CO.—
"Rubbing costs reduced, grain raise eliminated."

OLSON CONSTRUCTION—
"More re-uses of forms especially on exposed concrete work."

*The Coliseum shown above was designed by Sherlock, Smith & Adams Inc., of Montgomery, Ala., in collaboration with the New York Engineers Ammann & Whitney.*

**A. C. HORN COMPANY, INC.**
Manufacturers of materials for building maintenance and construction—established in 1897
10th Street & 44th Avenue, Long Island City 1, N. Y.
Los Angeles · San Francisco · Houston · Chicago · Toronto
SUBSIDIARY OF SUN CHEMICAL CORPORATION

AR

GENTLEMEN:
Please send me complete data on FORMFILM.

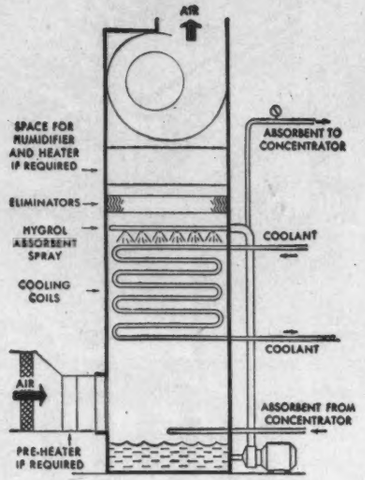
NAME_____ TITLE_____
COMPANY_____
ADDRESS_____
CITY_____ STATE_____

# How You Save with the NEW Niagara Method of Air Conditioning

## *Using "Hygrol" Hygienic Absorbent Liquid*

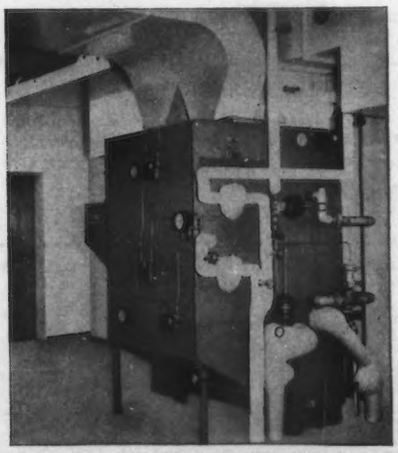
Because it absorbs moisture from the air directly, the new Niagara Controlled Humidity Method uses less, or no, mechanical refrigeration for dehumidifying. You save first costs and installing of heavy machinery. You save space, maintenance expense, power. You get easier, more convenient operation.

Using "Hygrol" hygienic absorbent liquid, this method gives complete control of temperature and relative humidity. Especially, it is a better way to obtain dry air for drying processes, packaging hygroscopic materials, preventing moisture damage to metals, and obtaining better quality for chemical process products and food products—or in obtaining better results in comfort air conditioning for office or laboratory at lower refrigeration costs.



NIAGARA CONTROLLED HUMIDITY METHOD — FLOW DIAGRAM


*Food Packaging under Controlled Humidity*


*Niagara Controlled Humidity Air Conditioner*

The diagram shows how filtered air is dehumidified by passing thru a spray of "Hygrol" —a liquid absorbent which removes air-borne moisture. This liquid is hygienic and non-corrosive; it contains no salts or solids to precipitate and cause maintenance troubles. It is continuously re-concentrated at the same rate at which it absorbs moisture, providing always the full capacity of the air conditioner, automatically.

Units provide a range of capacities from 1000 to 20,000 C. F. M. Multiple unit installations are in use successfully. Records of results are available. For further information, write Niagara Blower Co., Dept. AR, 405 Lexington Ave., New York 17, N. Y.


## THE RECORD REPORTS

(*Continued from page 188*)

ship, made possible by contributions to the World Student Fund, has been awarded to Hans Ludwig Wagner, chemistry student at Stuttgart. He plans to study physical organic chemistry at Georgia.

### *Faculty Appointments*

• G. Holmes Perkins has been named Dean of the School of Fine Arts of the University of Pennsylvania.

Mr. Perkins, who will begin his work at Pennsylvania next February, has been since 1945 the Charles Dyer Norton professor of regional planning and chairman of the Department of Regional Planning of the Harvard Graduate School of Design.

His appointment as dean fills a vacancy created in June when Dr. George Simpson Koyl retired from that post to devote his entire time to his teaching activities as professor of architecture.

A graduate of Harvard University, where he received both his bachelor of arts and master of architecture degrees, Mr. Perkins taught architecture for a time at the University of Michigan but returned to Harvard in 1930. There he has served successively as instructor, assistant professor and associate professor of architecture in the Harvard Graduate School of Design. From 1942 to 1945 he was associated with the National Housing Agency in the Urban Development Division.

Mr. Perkins is a member of the American Institute of Architects and the American Institute of Planners and is editor of the Journal of the American Institute of Planners. He is the author of a "Comparative Outline of Architectural History" and of numerous articles.

• Additions to the faculty of the School of Architecture and Allied Arts at the University of Oregon for the year 1950–1951 include Edmond McCollin, assistant professor of architecture; Donald Sites, Lionel Chadwick and Jan Smekens, instructors in architecture. All the new staff members are critics in design. Mr. Smekens is on a part-time basis through exchange from the Institute of International Education.

The School has also announced that Prof. Wallace Hayden is on sabbatical leave for the 1950–51 session for study

(*Continued on page 192*)

# Welded Design Cuts Structural Cost 32%

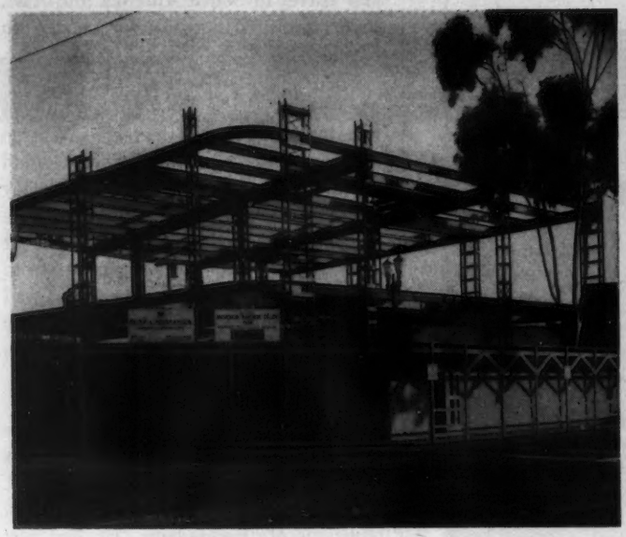


**Fig. 1.** *All welded (112 ton) framework for the Associated Telephone Company Building, Laguna Beach, California.*



**Fig. 2.** *Open box column construction fabricated at low cost from plain angles, plate and bars.*

By **Maurice Sasso, Consulting Engineer**
**Los Angeles, California**

ARC welding provides the engineer new freedom in design for developing structural members impossible by any other method. It enables him to use structural materials more efficiently, to design stronger, yet lighter buildings that can be erected at lower cost.

In the construction of the Associated Telephone Company Building, Laguna Beach, California, open box column design has effected a saving of 32%. The saving of welded construction over riveted design amounts to $7,954 and includes the elimination of 27 tons of structural steel and a reduction in building height of 1′6″.

All open box column members, (Fig. 2) as well as beams and girders, were shop fabricated at low cost with fast, downhand welding methods. Field erection was completed in only 26 hours with a crew of 6 men. Both shop and field welding were done with Lincoln "Fleetweld 5" electrode and "Shield-Arc" welders. Welding also made it possible to erect the addition without disturbing delicate instrument settings in the telephone exchange itself.



**Fig. 3.** *Arc welding girder-to-column. This is the only weld where a scaffold was used.*



**Fig. 4.** *Welding beam-to-girder. Full continuity increases resistance to bending and shear.*




**Fig. 5.** *Beam and girder connection made through open box column permits easy downhand welding.*

**GET THE FACTS**

*Send for Studies in Structural Arc Welding, write*
**THE LINCOLN ELECTRIC COMPANY**
**Dept. 153, Cleveland 1, Ohio**

*Sales Offices and Field Service Shops in All Principal Cities*

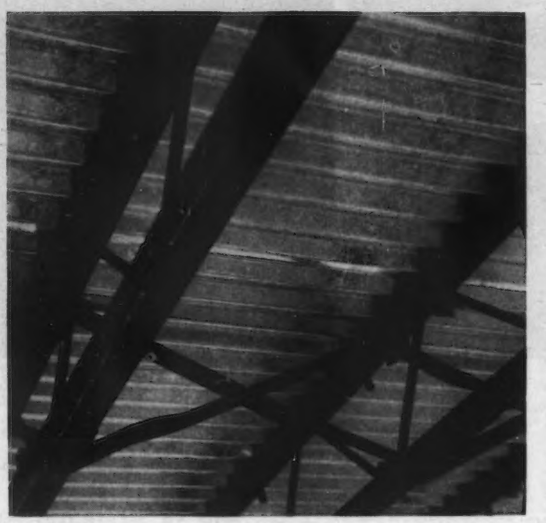
LINCOLN

# One Word Specification

# Corruform

When you specify Corruform you get one standard product developed to meet your needs, uniform in quality, available anywhere without restriction on your choice of the major construction materials with which Corruform is used.

Patented Corruform is a 100,000 psi steel base for concrete in joist construction. Millions of square feet of Corruform testify to its service to architects and performance to contractors.



**SAFE** — because Corruform was developed to provide an extra-tough, secure steel base which maintains structural principles and structural integrity.

**GOOD LOOKING** — because the pleasing corrugated pattern makes an attractive exposed ceiling. It remains true and level. Corruform is available plain, galvanized or vinylprimed for painting.

**ECONOMICAL** — because, made of 100,000 psi steel, it performs adequately without waste. Corruform carries concrete without sag, stretch, bend or leakage.

**STANDARDIZED** — to meet the specification requirements for joist construction, one gauge — .0156″ steel — one shape — 2 3/16″ x 1/2″ deep corrugations — weight 3/4# per square foot with fasteners, steel of guaranteed average strength 100,000 psi — single test minimum strength 95,000 psi.

**SEND FOR AIA FILE TODAY**




**GRANCO STEEL PRODUCTS CO.**
*(Subsidiary of Granite City Steel)*
Granite City, Illinois

SINCE GRANITE CITY STEEL 1878


## THE RECORD REPORTS

*(Continued from page 190)*

and travel in South America and Asst. Prof. Jack Wilkinson for study in Europe.

Six graduate assistantships have been made available for 1950–51 to students working for advanced degrees — Warren Holbrook, Joseph Daugherty, Donald Rankin, Howard Hall, Robert Peasley and Mrs. Jane Gehring.

The Ion Lewis Fellow, Everett Franks, has recently returned from travel and study in South America and Prof. David McCosh has returned to the staff after a year's sabbatical leave in Mexico.

• Albert Litvin, materials engineer for the National Bureau of Standards, has been named structural engineer at Armour Research Foundation of Illinois Institute of Technology. In his new position, Mr. Litvin will be doing research in the field of lightweight aggregates and concrete.

• The appointment of Isadore Rosenfield, New York architect and hospital consultant, as a visiting critic in graduate design at the Columbia University School of Architecture has been announced by Dean Leopold Arnaud. The architect will present a problem which involves a hospital with one program and site, but with different climatic conditions.

### COMPETITIONS

#### *N.A.H.B. and* Building *Sponsor Small House Design Contest*

Prizes totaling $100,000 are offered in a small house design contest jointly sponsored by the National Association of Home Builders and *The Magazine of Building.*

The contest, which closes Dec. 15, is open to draftsmen, designers and students as well as architects. Winners will be announced in January.

The contest is intended to elicit the best possible design for a three-bedroom house with not more than 1000 sq ft of floor space, suitable for a 60 x 100 ft lot, and meeting FHA and VA requirements.

Awards will be made in three categories — national, regional and special. National awards listed are: first — $7500; second — $5000; third — $2500; fourth — $1000; nine honorable mentions —

*(Continued on page 194)*

# HOW to plan distinction at low cost



## with the MASONITE HARDBOARD FAMILY

When owners want distinction—but the budget says "no"—the Masonite* Hardboard family offers a happy solution! Available in 19 types and thicknesses, these smooth, grainless, all-wood panels create out-of-the-ordinary interiors at low cost. Supremely workable—staunch and enduring—they speed the work while assuring lasting value. Here are a few ways in which Masonite Hardboards can assist you—

### HOW to Provide Crackproof Dry Walls

Big, rigid panels of Masonite ¼" Panelwood* go up quickly over open framing to create attractive effects like this. Panelwood builds crackproof walls and ceilings—dent and scuff resistant, too. And its supersmooth surface is easy to finish.



### HOW to Add Individuality —at Low Cost

There's more scope for your planning after you specify walls of Leatherwood—the Masonite Hardboard with a surface that looks and feels like Spanish-grain leather. Use Leatherwood, too, for inexpensive cabinet work with a luxury look.



### HOW to Have High Style—on a Low Budget

Masonite Temprtile*—tempered for extra durability and moisture resistance—comes already scored in a 4-inch tile pattern. Temprtile can be enameled, lacquered or painted—keeps its gleaming brightness for years. The cabinets are made of ¼" Standard Presdwood*.



**MASONITE CORPORATION**

*Trade-marks Reg. U. S. Pat. Off. "Masonite" signifies that Masonite Corporation is the source of the product.

***Useful Information—Yours for the asking—Mail the coupon!***

**MASONITE CORPORATION, Dept. AR-11**
**P. O. Box 777**
**Chicago 90, Illinois**

Gentlemen:
For my files, please send me information and literature about Masonite Hardboards.

*Name*.....

*Address*.....

*City*.....*State*.....

***Lumber dealers have 19 types and thicknesses of MASONITE HARDBOARDS for 1000 uses***

# Speed and Simplify BUILDING

## with "Safety-Sealed" Saf-Aire Gas Heating Units

**Gain Valuable floor space!**
**Free your designs from chimney limitations!**
**Avoid expensive central heating installation!**

When you specify "Safety-Sealed" Saf-Aire units you combine safety and dependability with real economy. These attractive, space-saving Saf-Aire units require no chimney, no ducts, no electricity. Bring important installation savings.

Quickly, easily installed in any exterior wall, Saf-Aire provides healthful, even, "zone-controlled" heat with either natural, manufactured or LP gas. Assures positive safety, too, for no room air is used for combustion.



**Chooses SAF-AIRE For 1500-Home Project**

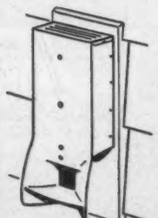
Mr. Barney Katzman, President of Detroit's Prudential Investment Company, says: "Important savings of space and simplification of individual home design are the two main reasons we picked Saf-Aire. We also count on their positive safety and convenient zone-heating control to be big assets in the sale and rental of these homes."



**SAF-AIRE** wastes no floor or closet space. The all-aluminum interior panel extends only 4 inches from wall surface. Connects directly to the small Lundstrum Vent on the exterior wall. Simple, modern design suits any interior. Both 14,000 and 20,000 BTU capacity models are available in 3 attractive finishes.

**Model 991-14**
**18" x 24"**

**Model 992-20**
**18" x 38½"**



***Only Saf-Aire . . .***

. . . has the patented exterior wall vent that draws all combustion air from outdoors, then vents all combustion products outside for dissipation.

**Approved by American Gas Association. Also listed by Underwriters' Laboratories and accepted for Veterans' Housing and F. H. A. financing.**

**WRITE NOW** for complete *free* information and specifications.
Stewart-Warner Corp., South Wind Division, 1526 Drover Street
Indianapolis 7, Indiana

STEWART Safety Sealed WARNER
DOMESTIC HEATING


## THE RECORD REPORTS

(*Continued from page 192*)

$500 each. For the seven regions set up by the program there will be first prizes of $750; second prizes of $500; and 15 honorable mentions of $250 each. There will be three series of special awards for the best handling of various phases of house design and use of various materials. These will offer: first — $2500; second — $1500; third — $1000; fourth — $500; 10 honorable mentions — $250 each.

In addition to the $57,000 which has been allocated for national, regional and special awards, it is anticipated that $43,000 in local awards will be offered by many of the nearly 150 local chapters of the N.A.H.B.

Associate sponsors of the contest include the American Gas Association, General Electric Company and Kwikset Locks, Inc. Special award sponsors include the Douglas Fir Plywood Association, Libbey-Owens-Ford Glass Company and Mullins Manufacturing Corporation.

Architect Carl G. Lans is serving as professional adviser to the sponsors of the contest, which has been approved by the American Institute of Architects. Queries should be addressed to Mr. Lans at *Building*, 9 Rockefeller Plaza, New York 20, N. Y.

### EERO SAARINEN RECEIVES HIS FATHER'S LAST AWARD

The final honor of a distinguished career came posthumously to Eliel Saarinen at impressive ceremonies arranged by the Detroit Chapter of the American Institute of Architects on September 21 in the auditorium of the Rackham Building in Detroit.

There Eero Saarinen accepted from A.I.A. Secretary Clair W. Ditchy the Gold Medal of the Royal Institute of British Architects, awarded to his father only a few months before the elder Saarinen's death.

The Medal had been entrusted in June to Talmadge C. Hughes, F.A.I.A., executive secretary of the Detroit Chapter, who received it as the Chapter's delegate from R.I.B.A. President Michael T. Waterhouse for presentation to Eliel Saarinen at special ceremonies in Detroit. But Mr. Saarinen died on July 1, before the presentation could be made, and the Royal Institute then asked that the Medal be presented to

(*Continued on page 196*)

## Art Metal Provides

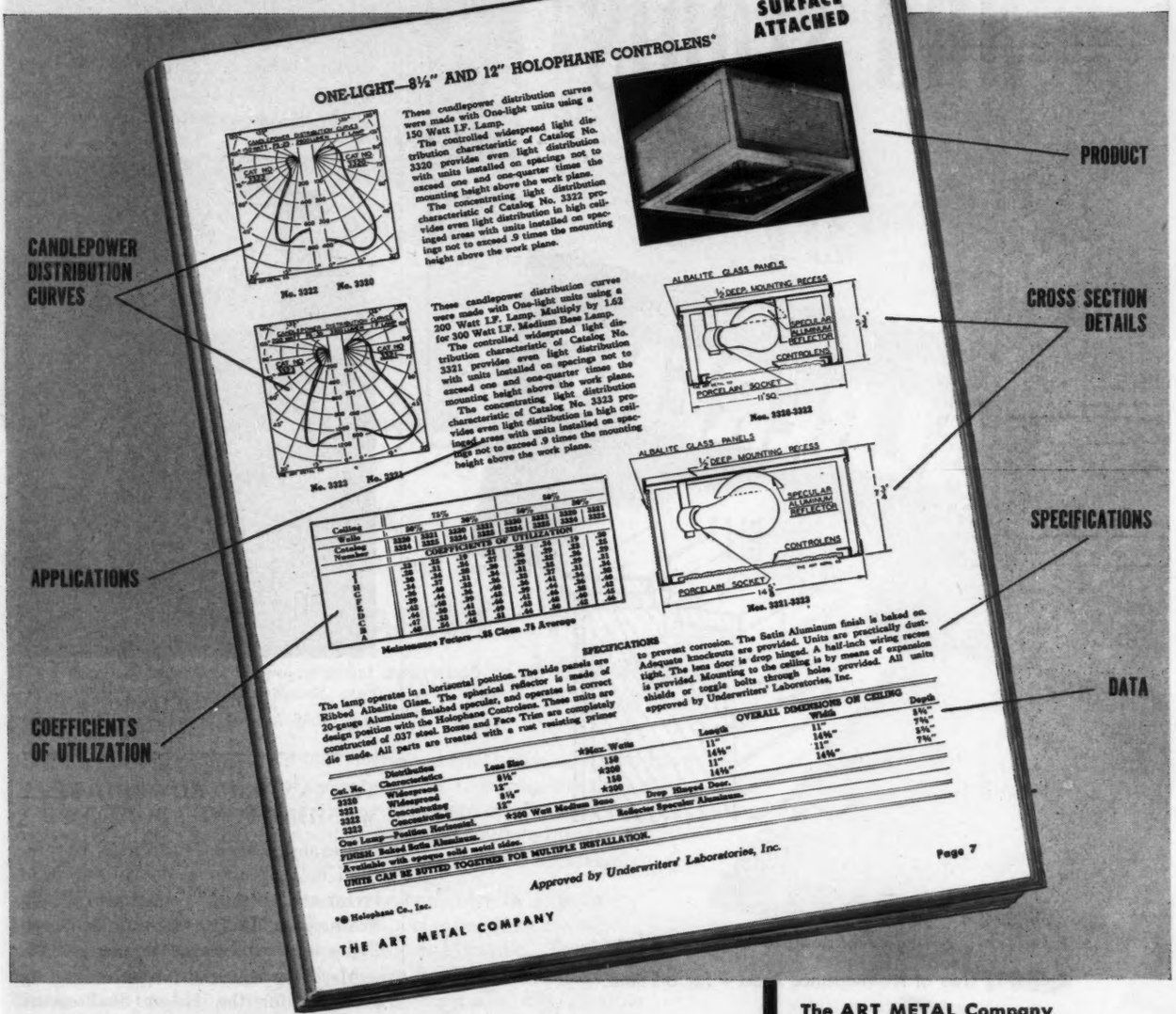
# All the DATA You Need to specify and Use

# INCANDESCENT LIGHTING

**This is a typical page illustrating the complete product information presented in the new, 48-page Art Metal Catalog . . .**

### Explicit Data

- 99 Product Illustrations
- 51 Cross Section Details
- 47 Light Distribution Curves
- 24 Coefficient of Utilization Tables
- Detailed Product Specifications
- General Engineering Information




## THE ART METAL COMPANY • CLEVELAND 3, OHIO

*Manufacturers of Unified Lighting Equipment for Office, Store, School, Hospital and Hotel*

There's an Art Metal Incandescent Unit for every lighting need.

***Art Metal Unified Lighting, standardizes the design, style and finish of each unit, to achieve an architecturally integrated installation.***

**The ART METAL Company**
**1814 East 40th Street, Cleveland 3, Ohio**

Gentlemen: Kindly send me your CATALOG —INCANDESCENT UNIFIED LIGHTING.

Firm_____

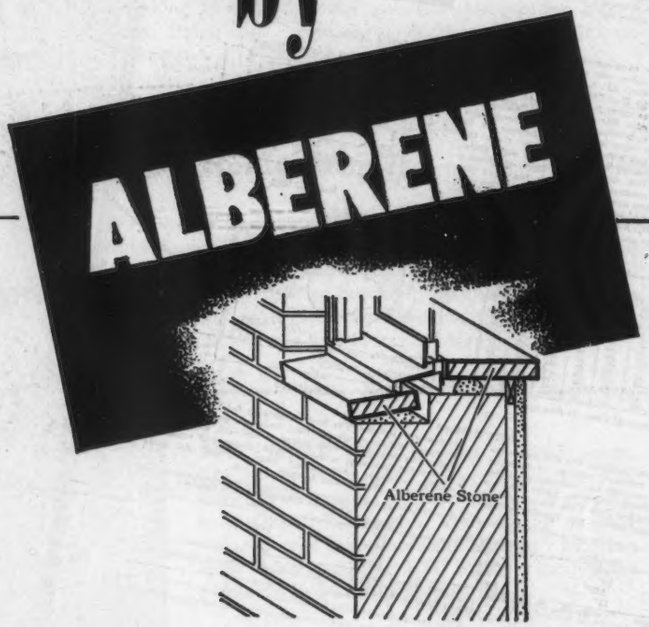
Name_____

Title_____

Address_____

City_____ State_____

# window sills and stools by




- They never chip, scale, or split.
- They're blue-gray — harmonize with any color.
- They're free of maintenance costs — for all time.

Alberene stone may also be used on copings, spandrels, exterior and interior trim. Write today, on your own letterhead, for full data and samples to—



**ALBERENE STONE CORP.**

419—4TH AVENUE • NEW YORK 18, N. Y.


## THE RECORD REPORTS

(*Continued from page 194*)

Eero Saarinen on behalf of his father.

At the Detroit meeting, Mr. Hughes described his mission to London and delivered the Gold Medal to Mr. Ditchy.

Tributes to the Finnish-born architect described by Mr. Ditchy as the most illustrious member the Detroit Chapter ever had were also heard from Prof. Emil Lorch of the University of Michigan and George F. Emery, secretary of the Detroit City Plan Commission. Mr. Saarinen's remarks included a moving account of the memorial services held at Helsinki when his father's ashes were taken to Finland and at the burial place on the Saarinen estate at Hvittrask.



*Eero Saarinen (left) receiving his father's Gold Medal from Clair W. Ditchy*

### ALEXANDER TROWBRIDGE: WASHINGTON ARCHITECT

Alexander Buell Trowbridge, who retired in 1937 after a 40-year career in architecture, died September 27 in Washington, D. C., where he had been living in recent years. His age was 82.

Mr. Trowbridge, a former consulting architect for the Folger Shakespeare Library and the Federal Reserve Board, was senior partner in the architectural firm of Trowbridge and Ackerman in New York from 1906 to 1921. From 1921 to 1934 he was a consulting architect in New York and Washington.

After his graduation from Cornell in 1890, Mr. Trowbridge studied at the Ecole des Beaux Arts in Paris, and then returned to Cornell as dean of the College of Fine Arts from 1897 to 1902.

# *Johns-Manville Floorings—*

# THERE ARE TWO!



J-M ASPHALT TILE



J-M TERRAFLEX

## 1. J-M ASPHALT TILE . . .

***Standard of quality . . . chosen for United Nations Building***

## 2. AND J-M TERRAFLEX . . .

***New plastic-asbestos tile—nearest approach to an ideal all-purpose flooring ever developed!***

• When you want a quality floor covering at *low initial cost*, you have every reason for preferring J-M Asphalt Tile. It is long-wearing, easy to maintain, and the units come in a wide range of attractive colors. Today asphalt tile is the most widely used and accepted floor covering for all types of commercial and institutional buildings!

**BUT,** when your preference is for the *best* there is, look to Terraflex! It is the revolutionary *new* flooring made of *plastic-asbestos*, pioneered and developed by Johns-Manville. Terraflex will outwear all other types of decorative flooring *two to one.* The resilient tile-like units are *unaffected* by greases, oils, alkaline moisture. They come in clearer, brighter colors . . . can be safely used on concrete floors in contact with the ground...withstand normal movement of wood sub-floors without breaking.

Whether you select J-M Terraflex or J-M Asphalt Tile, your flooring choice will be on a firm foundation. See your J-M Approved Flooring Contractor, or write for our new flooring brochures. Johns-Manville, Box 290, New York 16, N. Y.



**Johns-Manville**

*Reg. U. S. Pat. Off.

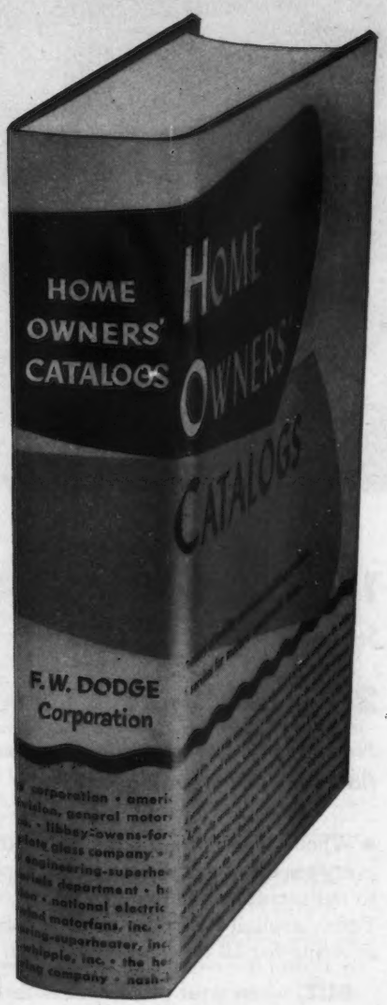
J-M ASPHALT TILE FLOORING has the Mark of Distinction ... the label of the Asphalt Tile Institute

*Here it is!*

# '51's LIKELIEST PROFIT-PRODUCER

**for manufacturers of new-home products!**

*Here's why...*




**UNLIKE** government-curbed mass housing, the rich custom-built market is heading for an upswing in '51—and Home Owners' Catalogs sells this quality market like no other medium does.

**UNLIKE** mass "shelter group" publications, Home Owners' Catalogs selectively sells this selective market by distributing your sales literature to *known consumer prospects only* — families who are *impelled to buy.*

**UNLIKE** the function of mass advertising, consumer catalog distribution via Home Owners' Catalogs provides detailed *buying information* which influences *buying decisions* made by specific, verified, dominant *buying factors.*

**UNLIKE** any other printed means you can name, Home Owners' Catalogs is the *most effective, most economical* distributor of consumer sales literature to the greatest number of qualified home-planners.

**UNLIKE** any other year in its history, Home Owners' Catalogs is now serving more national accounts than ever before . . . distributing more consumer catalogs than ever before (over 2,500,000) . . . binding bigger books than ever before (over 398 pages).

**UNLIKE** all other merchandising aids offered by consumer publications and services, the Home Owners' Catalogs merchandising package is a *proven sales-maker* with plenty of dealer-level impact.

**ACT NOW! HIRE HOME OWNERS' CATALOGS FOR '51!**
**YOU'LL LIKE WHAT IT DOES TO YOUR SALES!**

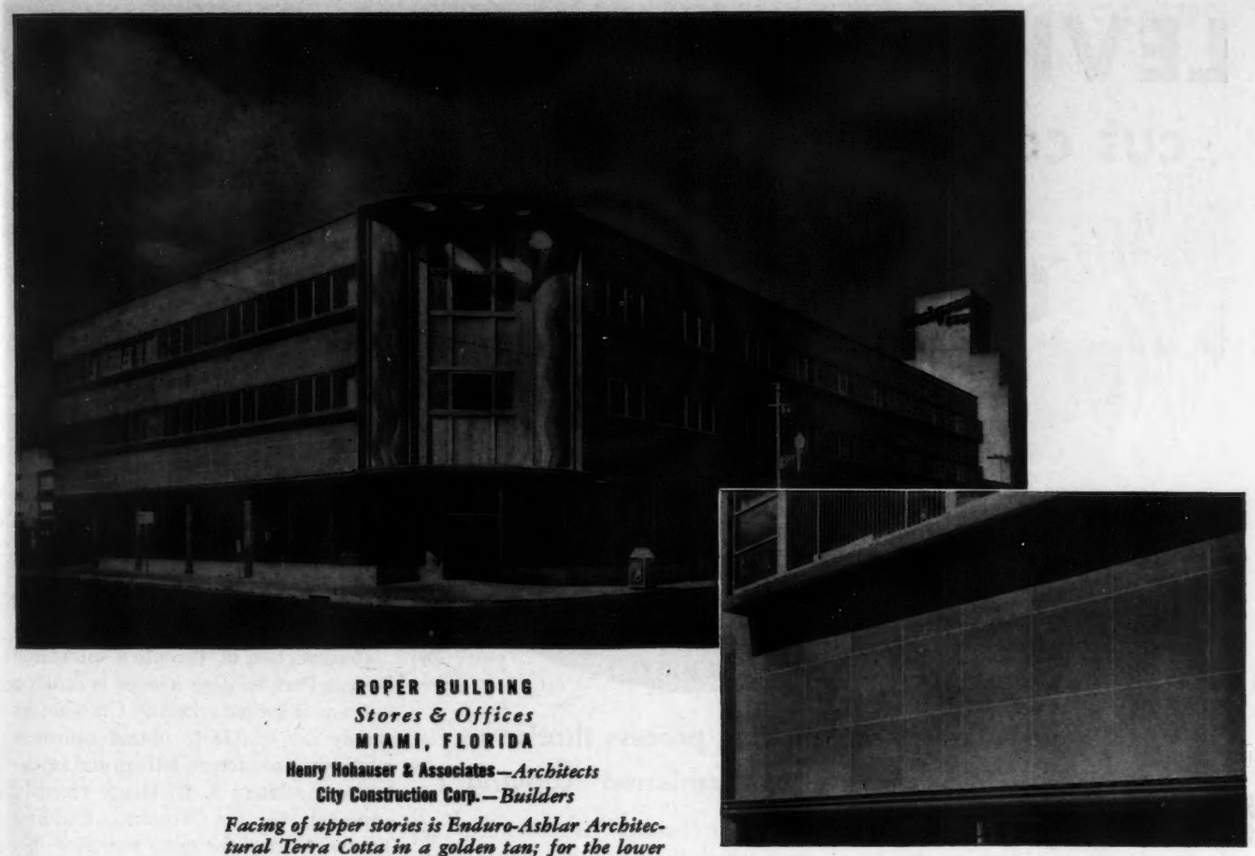
**RARE SALES OPPORTUNITY . . .**
for manufacturers of building materials, equipment, appliances, and home furnishings!

Write today for full facts on Home Owners' Catalogs and the quality housing market. These two brochures are yours for the asking: "Now You Know" and "Let's Sell Quality Housing".

HOME OWNERS' CATALOGS

THE F. W. DODGE CORPORATION'S
CONSUMER CATALOG DISTRIBUTION SERVICE

119 WEST 40TH STREET • NEW YORK 18 • NEW YORK



**ROPER BUILDING**
*Stores & Offices*
**MIAMI, FLORIDA**
**Henry Hohauser & Associates**—*Architects*
**City Construction Corp.**—*Builders*
*Facing of upper stories is Enduro-Ashlar Architectural Terra Cotta in a golden tan; for the lower story the color is a harmonizing green glaze.*

## You can design "personality"

## right into each building when you specify

# ENDURO-ASHLAR ARCHITECTURAL TERRA COTTA

So versatile in form, color and texture is Enduro-Ashlar Architectural Terra Cotta, that you can design in it without creative restraint. It is tailor-made to meet your specifications precisely—severe surfaces or decorative sculpture, brilliant colors or delicate tints, individual units large or small. Every advantage you want in a building material is found in Enduro-Ashlar Architectural Terra Cotta ... for, in addition to its versatility, beauty and quality, it assures minimum maintenance. Simple soap-and-water washings retain its original richness and attractive appearance indefinitely. Whatever the project—mercantile, industrial or monumental construction, or modernization—you'll want to investigate the advantages offered by this time-proved terra cotta.

*Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge. Send your inquiry today.*

## FEDERAL SEABOARD TERRA COTTA CORP.

F S T C

10 EAST 40th STREET, NEW YORK 16, N. Y.
PLANTS AT PERTH AMBOY AND SOUTH AMBOY, N. J.

# LEVITT & Sons cut costs $16,800 a year with OZALID



**OZALID is the speedy copying process that's 60 TIMES FASTER than costly, old-fashioned "copying"!**

Ozalid, the versatile and economical copying process, not only helps Levitt & Sons create a distinctive style for each home in famous Levittown—but is saving these Long Island builders thousands of dollars each year.

**Plan Changes Made with Ease**

Although Levitt & Sons' 5,000 low-priced houses, built this year, were designed around 4 basic plans, each unit presents separate drafting problems. In spite of limiting basic designs Ozalid provides them with the simplest, most accurate way to add or change elements in the master plans.

**Prints Delivered in Minutes**

An Ozalid printing machine is located on the premises of the Levitt engineering department—there's no waiting for prints. Detailed information is forwarded immediately to the sales, legal, construction and purchasing departments; and new or corrected copies are immediately available. Working a 7-day week, Ozalid turns out *thousands* of prints—in record time.

**Plan Costs Cut 44%**

Prior to Ozalid, Levitt & Sons spent, on the average, $2,500 each month for prints alone. Since Ozalid, these costs have been reduced to $1,100—a saving of $16,800 a year!

Whether your business is large or small—engineering, accounting, manufacturing or selling—you can benefit from Ozalid's versatility. Get the full story of how Ozalid can solve *your copying problems* — write for your copy of "The Simplest Business System", today!

OZALID, Dept. E-6
Johnson City, New York
Gentlemen: Please send free illustrated booklet that fully explains the Ozalid process.

Name.....

Company.....

Position.....

Address.....

*Or call your local Ozalid distributor listed in the classified telephone book.*



Cut Copying Costs ...use

**OZALID**

Johnson City, N. Y. • Ozalid in Canada—Hughes Owens Co., Ltd., Montreal

**A Division of General Aniline & Film Corp. "From Research to Reality"**


## THE RECORD REPORTS

### CANADA

*(Continued from page 16)*

### *Labor and Materials Costs Continue Upward Spiraling*

The picture, if not black, is at least a somber gray on the Canadian labor and materials front.

During the summer, significant breaks were made in the contractors' "hold-the-line" policy on wage rates. But this has not kept shortages of skilled manpower from developing on every hand. Many workers already have taken jobs in the reopening defense factories. Others have enlisted in the special military force being raised for use by the United Nations.

Construction of Toronto's subsidized Regent Park housing scheme is running half a year behind schedule. Contractors simply are unable to obtain sufficient numbers of plasterers, lathers and bricklayers. Architect J. E. Hoare recently appealed to the Toronto Building Trades' Council for more workmen. He got no commitment.

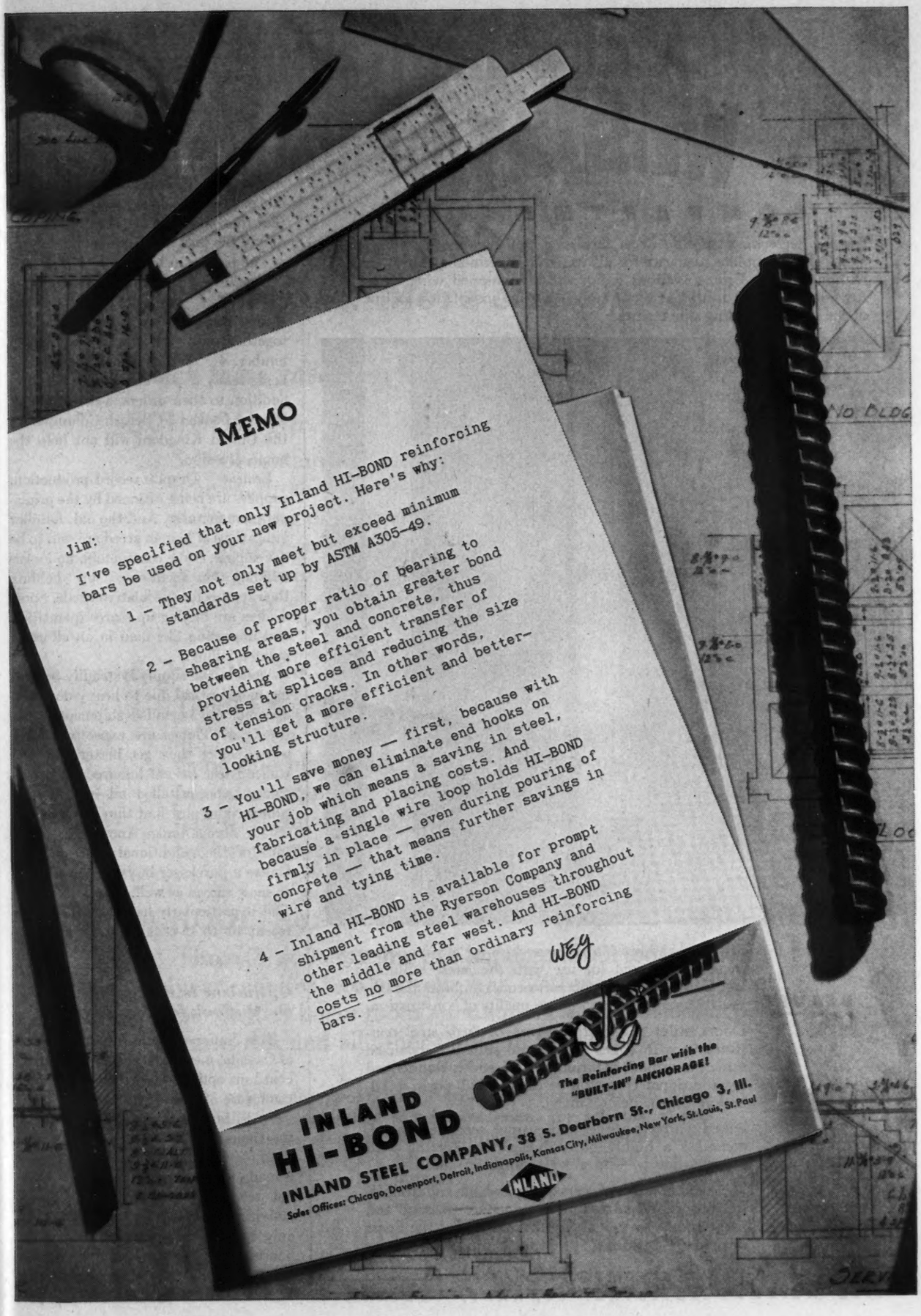
Prices of building materials have been hiking upward at an unprecedented rate ever since the outbreak of hostilities in Korea. One expert says an estimated 15 per cent average advance is conservative. In almost every class of commodity, heavy demand plus boosts in raw materials costs and a touch of inflation is the recipe that has sent prices scurrying to record levels.

Bad enough as this is, goods are becoming scarce enough to extend delivery dates. As a result, some people appear to have concluded that it's faster to steal what they want than to wait for it to arrive through conventional channels. The *Financial Post* reports that thefts of building materials have shown a sharp incline. The materials are either taken from the site at night or are sidetracked somewhere in the handling process.

The Purchasing Agents' Association of Toronto puts it most succinctly. "A sharp price increase has occurred in practically every item in the construction material list, and their availability is at the difficult, if not impossible, stage."

Brick, tile, lumber, cement, steel and wallboard are all in very short supply, with extended delivery in some cases. The nationwide railway strike in

*(Continued on page 202)*


MEMO
Jim:
I've specified that only Inland HI-BOND reinforcing bars be used on your new project. Here's why:
1 - They not only meet but exceed minimum standards set up by ASTM A305-49.
2 - Because of proper ratio of bearing to shearing areas, you obtain greater bond between the steel and concrete, thus providing more efficient transfer of stress at splices and reducing the size of tension cracks. In other words, you'll get a more efficient and better-looking structure.
3 - You'll save money — first, because with HI-BOND, we can eliminate end hooks on your job which means a saving in steel, fabricating and placing costs. And because a single wire loop holds HI-BOND firmly in place — even during pouring of concrete — that means further savings in wire and tying time.
4 - Inland HI-BOND is available for prompt shipment from the Ryerson Company and other leading steel warehouses throughout the middle and far west. And HI-BOND costs no more than ordinary reinforcing bars.
WEJ
INLAND
HI-BOND
The Reinforcing Bar with the "BUILT-IN" ANCHORAGE!
INLAND STEEL COMPANY, 38 S. Dearborn St., Chicago 3, Ill.
Sales Offices: Chicago, Davenport, Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis, St. Paul
INLAND



IN UNITED NATIONS BUILDINGS—

# WEISART

## COMPARTMENTS

For the Secretariat building Weis furnished polished stainless steel doors with complete hardware for all toilet compartments. All other buildings of the United Nations group will be equipped with WeisArt floor mounted toilet partitions similar to this installation in one of the nation's leading universities.



**BEAUTY** Designed and built in harmony with the most modern trends, and suited for use with the latest building techniques, WeisArt compartments combine fine appearance with thorough-going quality of construction.

**SANITATION** Doors, stiles and partitions are of flush steel construction with edges locked and sealed. Galvanized surface is smooth as furniture steel, and is Bonderized for additional corrosion resistance and positive adhesion of enamel to metal.

**STAMINA** Baked synthetic primer and enamel, separately baked, combines a highly protective surface coating with lustrous beauty — in a wide range of colors.

Measured in terms of years of dependable and trouble-free service, WeisArt compartments are practical and economical—as well as highly suitable for the finest of modern structures. For detailed information, write

HENRY WEIS MFG. CO., INC.
1103 WEISWAY BUILDING, ELKHART, INDIANA


# THE RECORD REPORTS

## CANADA

(*Continued from page 200*)

August had the effect of a general slowdown. Many stockpiles were depleted at that time and have not been replenished due to the lack of freight cars.

The picture in brief:

*Lumber* — Prices, now quoted on a "day-to-day" basis, are on the way up. Higher transportation costs are blamed, together with the world shortage of lumber. U. S. buyers are reported as being ready to pay almost any price. In addition to their orders, a new $25 million one booked by British Columbia for the United Kingdom will not help the home situation.

*Cement* — Despite record production, supplies are being rationed by the principal manufacturer. And the old, familiar indications of human greed are said to be developing. Some contractors, no longer building for themselves, are holding their quotas for speculative resale. Some dealers are buying up scarce quantities, and importing like mad in an effort to make a killing.

*Steel* — The supply is steadily becoming more critical due to heavy domestic demand and curtailed shipments from the U. S. Things are expected to get worse before they get better. One instance is the case of hundreds of homeowners who installed oil heating this summer and now find they're unable to obtain storage tanks. Another is the return of the conditional sale of nails. Unless a purchaser buys an alarm clock or snow shovel as well, he gets no nails. This is particularly hard to take after a recent 40- to 45-cent boost per cwt.

### *Optimism Is Expressed On Outlook for Housing*

The National Lumbermen's Council of Canada, meeting in Windsor, recently heard an optimistic forecast concerning the future of housing in Canada.

W. F. Lougheed, economic adviser to the Canadian Bank of Commerce, said that barring war or transformation of Canada into a garrison state, "one cannot see any check to house building activities for many years to come. Not only is there a substantial demand for housing, but also the encouragement of house building will be a part of the

(*Continued on page 204*)

# These Schools Heat with Anthracite because Anthracite Heat is—

## *1. More dependable 2. Cleaner*
## *3. Safer 4. More economical*

***Check these case histories of actual performance:***

### SCHOOL No. 1

School contains sixteen (16) rooms and a gymnasium and houses three hundred and twenty (320) pupils. One stoker using one hundred and ten (110) tons of rice coal per year requires twenty two (22) man hours for a complete heating season. The building is cared for by a single custodian who performs all other janitorial duties as well.

### SCHOOL No. 2

This is a seventeen (17) room and gymnasium unit housing two hundred and ninety two (292) pupils. One stoker using one hundred and fifty (150) tons of #1 Buckwheat per year requires ½ man hour of labor every two and one half (2½) days during the heating season. A single custodian performs all other janitorial duties.

### SCHOOL No. 3

Three (3) stokers using five hundred (500) tons of rice per year requires two and one half (2½) man hours of labor per day for boiler room attention. A single custodian performs this and all other duties in the school.

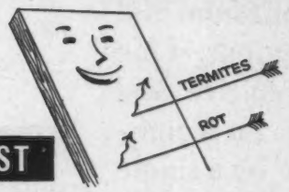
**Ask us for proof that Anthracite is more dependable, cleaner, safer and more economical for schools, apartments, hotels and similar buildings. Just write Anthracite Institute, 101 Park Avenue, New York 17, New York, or phone MUrray Hill 9-6890.**

**ANTHRACITE INSTITUTE**

**101 Park Avenue • New York 17, N. Y.**

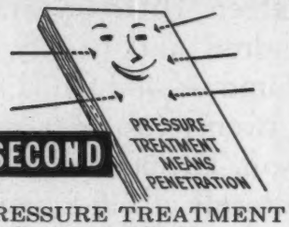
# All architects should know these facts about pressure-treated lumber






**FIRST**

PROTECTION—Treating of lumber preserves it—just as alloys preserve metals. The purpose is to protect lumber against costly rot and termite damage.




**SECOND**

PRESSURE TREATMENT vs. Surface Application—Authorities say that pressure treatment provides the only *sure, lasting* protection to lumber.



**THIRD**

OTHER QUALITIES TO LOOK FOR—For greatest usefulness, preservatives also should be *clean, odorless, paintable, non-leaching* and *non-corrosive.*



*For complete information about WOLMANIZED* Pressure-Treated Lumber, write for free booklet.*

*Reg. U. S. Pat. Off.



**FOURTH**

WOLMANIZED Pressure-Treated Lumber combines *all* these requirements—*lasts 3 to 5 times longer* than untreated wood, because it's treated under 150 lbs. pressure per square inch. Protection is deep in the wood fibers. It's clean, odorless, paintable, non-leaching, non-corrosive. Wolmanized Pressure-Treated Lumber has been proved in use for over 25 years. It will prove its value to you, too.

**AMERICAN LUMBER & TREATING COMPANY**

General Offices: 1650 McCormick Bldg., Chicago 4, Illinois

*Branch Offices: Baltimore, Boston, Jacksonville, Fla., Little Rock, Ark., Los Angeles, New York, Portland, Ore., San Francisco.*





## THE RECORD REPORTS

### CANADA

(*Continued from page 202*)

anti-depression activity of any government."

Mr. Lougheed's opinion is reassuring in the face of mounting construction costs. The latter seem to be inevitable with higher taxes, defense demands for material, and long-term labor contracts with projected wage increases.

So far, despite international tension, lending institutions advise that there has been no change in mortgage policy and they do not admit that any immediate change is contemplated. It is true that some institutions are not accepting applications on certain types of house at the present time, but this fact is attributed to the great expansion that has taken place in their mortgage portfolios, putting them in a position to be more selective than formerly.

Likewise, it is claimed that no change has been made in the lending policy of Central Mortgage & Housing Corporation, and no action comparable to the restriction of housing credit by the U. S. government is scheduled now. However, the federal shelter agency is not recognizing current labor and materials costs in establishing its appraised values. This may result in some curtailment of

(*Continued on page 206*)

Graham Warrington photography



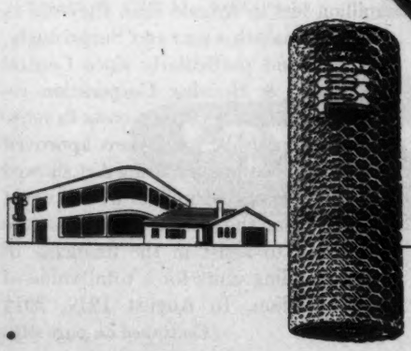
*Above: Guardian Angel Church, Vancouver. Architects: Gardiner & Thornton*



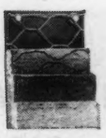
# *Eye appeal for clients with sharp pencils*

**There's a challenge, that many architects enjoy, in designing homes that "look like more than they cost." And the Keystone System of Stucco Application is one sure way of meeting the challenge successfully *in any price bracket.* The structural versatility and durability made possible by the Keystone System of Stucco Application set new standards for exterior finishes. For interiors, too, Keymesh offers design and construction advantages worthy of your consideration. Let us send you the booklet, "Specifications for Beautiful, Durable Stucco." Write Keystone Steel & Wire Company, Peoria 7, Illinois.**





**KEYSTONE SYSTEM OF STUCCO APPLICATION WITH KEYMESH**

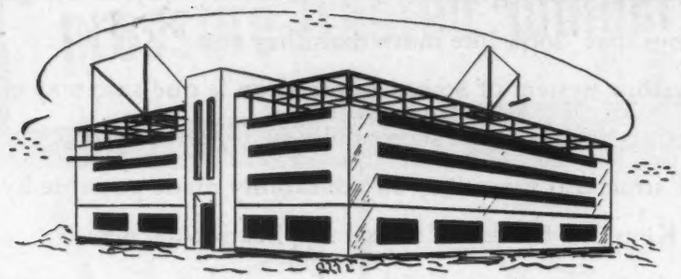


SINCE 1860

# TITUSVILLE

## ALL-WELDED BOILERS

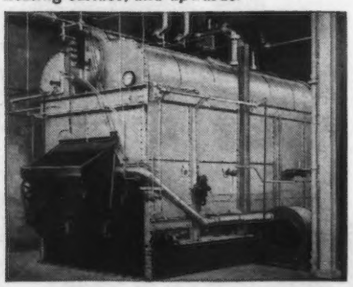
accepted as the standard for **DEPENDABILITY** and **ECONOMY**

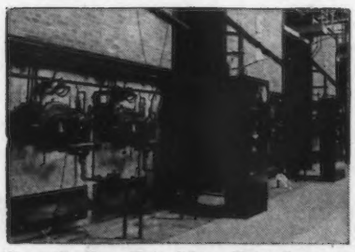




Titusville Scotch Marine High Pressure Boilers built with heating surfaces of 97 to 2993 square feet.

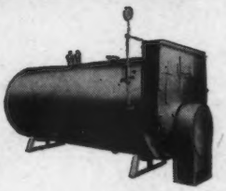
Titusville Ticotherm Steam Generators built in sizes ranging from 1000 square feet heating surface, and upwards.





Titusville Bent Tube Water Tube Pressure Boilers built in sizes ranging from 729 square feet heating surface to 8316 square feet heating surface, in required pressures.

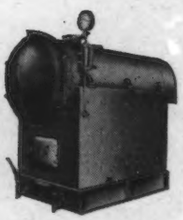
Titusville Scotch Marine Heating Boilers built in 19 sizes from 129 square feet to 2500 square feet heating surface, with 2190 to 42,500 square feet of steam radiation.





Titusville Portable High Pressure All-Welded Firebox-Firetube Boilers built in 13 sizes ranging from 250 square feet to 2500 square feet heating surface.

Three Pass Compact Type Welded Heating Boilers built in 19 sizes, from 129 to 2500 square feet heating surface, with 2190 to 42,500 square feet of steam radiation.



Write today for the complete series of new bulletins on TITUSVILLE Boilers—the most complete, factual bulletins in the industry.

division of

STRUTHERS WELLS CORPORATION

**THE TITUSVILLE IRON WORKS CO.**

TITUSVILLE, PENNA.

## THE RECORD REPORTS

### CANADA

(*Continued from page 204*)

building under the National Housing Act, but it is doubtful if it will have any appreciable effect in curbing rising costs when the whole economy is on the upswing.

In some quarters, notably those related to labor and social welfare, it is charged that the present C.M.H.C. policy discriminates against low income groups, those people who have money to meet monthly mortgage payments, but lack savings to make the initial down payment, and cannot acquire savings because of the high cost of living. Toronto's City Welfare Committee has gone so far as to call on the Ontario government to reinstate its second mortgage financing program for National Housing Act houses. There has been no action yet and it is doubtful if the province, after giving up its prerogatives in this field when the N.H.A. was revised last fall, is disposed to reenter the mortgage business.

### *Housing Volume*

The Dominion Bureau of Statistics figures for the first six months of 1950 show that Canada has been starting more new houses but finishing them at a somewhat slower rate.

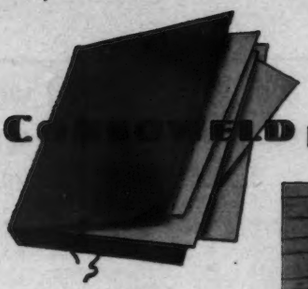
Starts numbered 42,149 up till July 1 this year, against 40,199 last year. During the first half of 1950, 35,968 dwelling units were finished compared with 39,726 in the first half of 1949.

At the end of the half-year, some 63,634 dwelling units were in various stages of construction. This is more than the 56,787 units estimated to be uncompleted at midyear in 1949.

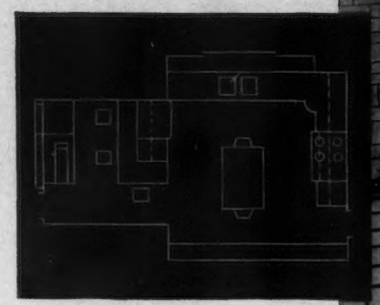
### *N.H.A. Mortgages*

House building awards tallied $7.4 million less in August than they did in the same month a year ago. Surprisingly, though, and particularly since Central Mortgage & Housing Corporation refuses to recognize current costs in making its appraisals, joint loans approved under the National Housing Act showed an increase of $16 million over August 1949. During the month, 3626 loans were approved to assist in the financing of 3932 dwelling units for a total value of $28.1 million. In August 1949, 2014

(*Continued on page 210*)



## CONSOWELD presents Number 3 in a Portfolio of outstanding Room Designs





Kitchen Design by James Eppenstein, A. I. A.
—Raymond Schwab, A. I. A., Chicago



Combine Appetizing Atmosphere with Optimum Efficiency with CONSOWELD-Surfaced Work and Service Centers

Food preparation and service in home and hospital—school and hotel—restaurant and factory—are easier, speedier on CONSOWELD-surfaced work centers and eating areas. Wherever people live, work and play, there are horizontal and vertical surfaces calling for *beauty* that is *functional*. The satisfactory answer is CONSOWELD, a thermo-setting plastic laminate. Colorful CONSOWELD *saves time* (wipes sparkling clean with a damp cloth) . . . *saves money* (never needs painting or resurfacing).

## All 4 Call for CONSOWELD

**Sleek, non-splintering CONSOWELD is kind to the sheerest fabrics. Good reason for its popularity in the bath, on retail sales counters and hosiery sorting tables. You'll find CONSOWELD the smart solution to many horizontal and vertical surfacing problems in commercial, industrial, institutional and residential construction and modernization. And, remember, *only* CONSOWELD is available in panels up to 16 feet long!**

**You and your clients will find dozens of interesting, useful ideas in the 16 full-color pages of the *new* CONSOWELD Room Planning Guide, currently advertised in BETTER HOMES AND GARDENS. You send the convenient coupon. We'll send your *free* copy! PLASTICS DIVISION, CONSOLIDATED WATER POWER & PAPER COMPANY, WISCONSIN RAPIDS 14, WISCONSIN.**




CONSOWELD
decorative laminates ®

© 1950, C. W. P. & P. Co.

CONSOWELD, Wisconsin Rapids 14, Wisconsin
Please send me, without cost:
[ ] CONSOWELD Room Planning Guide
[ ] CONSOWELD Color-Ring and Bonding and Fabrication Booklet

Name.....
Firm.....
Address.....
City.....State.....




# CUT *expensive draftsmen's Time*

# ADD *Speed, Efficiency, Accuracy* and

# . . . *with the* ELLIOTT FISHER

Install an Elliott Fisher Electric Lettering Machine, and get ready for a dramatic increase in output from your draftsmen.

You'll find this modern method of lettering relieves them of a tiresome, time-taking, expensive chore . . . and frees them for more important, more productive, more profitable work.

And, because any typist can learn to operate this machine in an hour or so, you cut costs another way.

You'll get the job done faster, better, with the *accuracy of machine operation* . . . and you'll get it done with less effort, at *less cost.* You can use this new Underwood machine for other typing work, too.

Undoubtedly, you want that kind of efficiency in your organization. And, with the defense program taxing us to the fullest, no up-to-the-minute engineering department can afford to be without it.

Check into the Elliott Fisher Electric Lettering Machine. Your local Underwood office will be glad to supply lettering samples on your own tracing paper or cloth. And, for full details on the machine itself, mail the coupon today.

**How long would it take your draftsmen to letter these notes by hand?**

GENERAL NOTES

REMOVAL OF EXISTING BRIDGE:- EXISTING SUPERSTRUCTURES SHALL BE REMOVED AND PILED AT THE SITE FOR DISPOSAL BY THE STATE.
EXISTING STONE ABUTMENTS SHALL BE REMOVED TO THE ELEVATIONS SHOWN ON THE PLANS. EXISTING STONE PIERS AND TIMBER PILE BENT SHALL BE REMOVED TO STREAM BED. THE MATERIAL REMOVED SHALL BE PILED AT THE SITE FOR DISPOSAL BY THE STATE.

WELDING:- ALL WELDING SHALL BE CLASS "A".

PILING:- PILING SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 20 TONS. ALL PILES SHALL HAVE STEEL POINTS. MINIMUM PILE PENETRATION SHALL BE 20'0" BELOW BOTTOM OF FOOTING.

VIBRATION:- ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.

EXPOSED EDGES:- CHAMFER ALL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$" UNLESS OTHERWISE DETAILED.

RE-USED STEEL FOR TRUSS SHALL BE HAULED BY THE CONTRACTOR FROM MCKINLEY AVE. GARAGE OF DEPT. OF HIGHWAYS AT COLUMBUS (WHERE IT WILL BE STORED AFTER COMPLETION OF ITS USE AT BR.NO.MA-40-161 OVER BIG DARBY CREEK, S.H.1, SEC. A.J, MADISON COUNTY) AND SHALL BE ERECTED AT THIS COSHOCTON COUNTY SITE, OR THE CONTRACTOR MAY BE REQUIRED TO HAUL THIS STEEL FROM THE BIG DARBY SITE TO THE COSHOCTON CO. SITE. THE BID PRICE FOR "HAULING RE-USED STRUCTURAL STEEL" SHALL BE CONSIDERED AS APPLYING TO HAULING FROM EITHER OF THESE SITES AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF HAULING AND UNLOADING IN CASE OF EITHER SITE AND ALSO LOADING IN CASE OF THE MCKINLEY AVE. SITE: IN CASE OF HAULING FROM THE BIG DARBY SITE THE LOADING SHALL BE DONE BY THE BIG DARBY CONTRACTOR UNDER HIS PRESENT CONTRACT AND THE CONTRACTOR FOR THE COSHOCTON CO. PROJECT SHALL HAVE ADEQUATE VEHICLES READY AT THE BIG DARBY SITE WHEN THE STEEL IS READY FOR LOADING.

PAINTING:- PAINT FOR SHOP COAT ON NEW STEEL AND PAINT REQUIRED FOR SPOT PAINTING ON RE-USED STRUCTURAL STEEL SHALL MEET THE PROVISIONS OF SEC. M-9.20 OR SEC. M-9.21. FIELD PAINT FOR BOTH THE NEW AND REERECTED STRUCTURAL STEEL SHALL BE TWO COATS OF EITHER ALUMINUM PAINT, SEC.M-9.12 OR WHITE PAINT, SEC.M-9.6, TINTED TO MATCH THE COLOR OF THE CONCRETE.

**It took less than 5 minutes with the UNDERWOOD ELLIOTT FISHER ELECTRIC LETTERING MACHINE.**

*and Economy . . .*

# ELECTRIC LETTERING MACHINE

## Check These Outstanding Advantages:

**Electric Keyboard** . . . a standard electric keyboard . . . fast, simple and easy to operate . . . many times faster than hand methods.

**Sharp and Clear Impressions** . . . a Special Blue Print Ribbon plus Dual Stroke Control of the electrically operated type bars assure proper density of every type impression to provide sharp and clear reproductions.

**Flat Writing Platen** . . . flat as a drawing board . . . accommodates small or large drawings with equal facility . . . provides unlimited flexibility for making corrections or revisions without removing the drawing from the machine.

**Complete Visibility** . . . approximately 396 square inches of any large drawing or tracing may be clamped in lettering position on the platen quickly and easily. This extra area is completely visible to the operator for lettering at will.

**Pin-Point Accuracy** . . . lettering can be positioned with pin-point accuracy anywhere on a drawing quickly and easily . . . a notched rifle-sight line-indicator tells the operator exactly where a type will print.

Accounting Machine Division

**Underwood Corporation**

ONE PARK AVENUE, NEW YORK 16, N. Y.

Makers of Underwood Typewriters, Accounting Machines, Adding-Figuring Machines, and Supplies

©1950

UNDERWOOD CORPORATION
One Park Avenue
New York 16, N. Y.
Gentlemen:
*Please send me full details on the Underwood Elliott Fisher Electric Lettering Machine.*

Name . . . . . .
Street . . . . . .
City . . . . . Zone . . . . . State . . . . . .

AR-11-50




**Consider the economy of STUCCO made with ATLAS WHITE CEMENT**

STUCCO is *the economical way* to lift a commercial building out of the drab and commonplace. It is a beautiful finish... in sparkling white or color. And it is practical. It simplifies design and construction problems. Original and upkeep costs are low.

Over the years properly made stucco exteriors have proved themselves...in the hot, dry climate of the Southwest...the dampness of the Gulf Coast...and the severe freezing-thawing of northern winters.

To get the full beauty of stucco along with its inherent durability, ATLAS WHITE CEMENTS are being specified more and more. Because they are true white cements, they enhance delicate pigment-based color tones and values.

ATLAS WHITE CEMENTS comply with ASTM and Federal Specifications for portland cement and are available in three types: Regular, Waterproofed and Duraplastic* air-entraining. Atlas White Duraplastic Cement gives increased plasticity for easier application and results in an even more durable stucco. Yet it costs no more.

For further information see SWEET'S catalog, section 4E/7a and 13C/5 or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

**"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.*

AR-C-29

FOR BEAUTY AND UTILITY
ATLAS WHITE CEMENT
FOR TERRAZZO, PAINT, SLABS, STUCCO




"THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries Sunday Evenings—NBC Network*




## CANADA

(*Continued from page 206*)

joint loans were approved for 2278 units amounting to $12.3 million.

Total joint loans from January to the end of August this year, amount to more than $188 million, an increase of $110 million over the same eight-month period last year.

### *Property Values*

A national survey of the several hundred members of the Canadian Association of Real Estate Boards posed the question: is the saturation point for housing yet in sight? The answer was a categorical "no" from most reporting sections. The general outlook for real estate sales in 1950–51 is unchanged from 1949–50. Demand is especially strong in Ontario, Quebec and the Maritimes. In British Columbia it is strong in Vancouver, steady to slightly declining elsewhere. The Prairie Provinces show soft spots developing in some sections, with others remaining strong.

The realtors say that prices of new residential property show a mixed pattern, but generally speaking, they are higher than ever before. Prices are staging a comeback in many cases of older property.

### *August Contract Awards Continue to Show Rise*

Contracts awarded during August soared to $144.5 million, $53.7 million ahead of last August's $90.6 million, according to MacLean Building Reports. With this month's increase, 1950's construction effort shot even farther ahead of the record established in 1949. In the first eight months of this year, $881.6 millions worth of contracts have been awarded, an increase of almost 25 per cent over $708.8 for the same period last year.

### *Toronto Development Plan Gets Provincial Approval*

The master plan designed to control Toronto's development for the next 30 years has been approved by the Ontario Department of Planning and Development.

This action comes nearly a year after the Toronto Planning Board's proposals were first made public, and paves the

(*Continued on page 212*)



# *This* ***Low-Brightness*** *Installation means High-Level Seeing Comfort*

## AT THE HARTFORD CONNECTICUT TRUST COMPANY

Seeing comfort is high in this Hartford, Connecticut bank. One reason, of course, being the high intensity level . . . an average of 60 footcandles initially. Yet brightness levels are exceptionally low both lengthwise and crosswise. The result is a well-lighted working area that keeps the seeing and working efficiency of employees high . . . that gives a light, cheerful atmosphere, attractive to customers.

Whenever you have a lighting problem — unusual or standard — call on your nearest Litecontrol representative. He'll be glad to assist you in every way.

**HARTFORD CONNECTICUT TRUST COMPANY, Hartford, Connecticut**

Architect:
Kilan & O'Connor, Hartford.

Lighting Engineer:
Hurley & Capacefalo, Winsted.

Lighting Equipment:
Litecontrol No. 5938 recessed. Slimline fixtures with Holophane No. 9015 CONTROLENS.*

Average Initial Intensity:
60 footcandles.

*®HOLOPHANE CO., INC.

**LITECONTROL CORPORATION**
36 PLEASANT STREET
WATERTOWN 72, MASSACHUSETTS
*Designers, Engineers and Manufacturers of Fluorescent Lighting Equipment distributed only through accredited wholesalers*

**LITECONTROL** *Fixtures*

KEEP UPKEEP DOWN

## CANADA (Cont. from page 210)




*Left: Upholstery factory for Toronto will have steel frame construction exposed on outside, laminated wood floors sprinklered throughout. Architect is Murray Sklar*

way for gradual implementation of a scheme that affects every aspect of the city's physical structure.

In preparation for three years, the plan calls for the spending of some $179 million on traffic arteries, public squares, redevelopment of blighted areas, extensions to water and sewage facilities, erection of health centers and homes for the aged, new civic buildings and park improvements. Grants from the provincial and federal governments are expected to reduce the net cost to the city to about $145 million.

James P. Maher, Planning Board chairman, commenting on the Province's approval, points out that a framework has been established within which Toronto can develop on an orderly basis.

"It is the first time in the city's history," he said, "that approval has been obtained for such a comprehensive plan."

City Council must now take two essential steps. The first: to adopt an up-to-date zoning bylaw. The second: to set up a system of priorities that will enable the various phases of the work to be carried out according to the urgency of the need and the ability of taxpayers to meet the cost.

### *Report Foresees Shortage Of Architects, Engineers*

Canada faces a serious shortage of architects and engineers, according to the latest report of the Technical Services Council on the employment situation.

During the 22 years the Council has been in operation, the number of architects and engineers per capita has increased tremendously.

"Nevertheless," the report states, "industry has expanded so greatly and our civilization has become so dependent on technology that the large (university) graduating classes have been absorbed."

Demand has been accelerating since the Korean crisis. Openings listed with the Council in August showed a hike of nearly 60 per cent over the same month last year.

### *B.C. Architects Publicize Activities of Profession*

The Architectural Institute of British Columbia is one of Canada's most active associations. Last fall, it set up a committee, under the chairmanship of Robert R. McKee, to launch a combined advertising and public relations program. Considerable progress is reported on the year's operations.

In advertising, both newspapers and direct mail were used. The ads were ap-

(*Continued on page 214*)

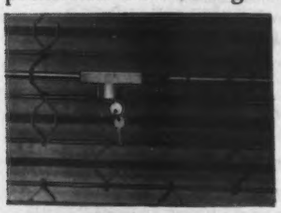




**New Safety plus air conditioning with MECCO Grilles**

**A NEW MECCO PRODUCT** . . . MECCO Rolling Grilles are engineered and built with the experience of scores of years in the fabrication of all types of doors for all types of buildings and projects. A combination of beauty and strength makes these new MECCO Grilles ideal for any application requiring locked off areas without disturbing light and air flow.

**WHERE TO SPECIFY** . . . For restricted areas in factories, warehouses, public buildings, schools, hospitals and other institutions . . . for store fronts and sections of stores . . . for recreational centers, stadiums, bowling alleys, race tracks and playgrounds . . . for entrances to parks, estates and prohibited areas both governmental and private.



**SEND FOR FREE ESTIMATE OF YOUR REQUIREMENTS** for new MECCO Rolling Grilles are available in sizes and types to meet your individual requirements. Complete data is available to you without obligation of any kind . . . write today.

*Larger Elevation Cylinder Locking Device*

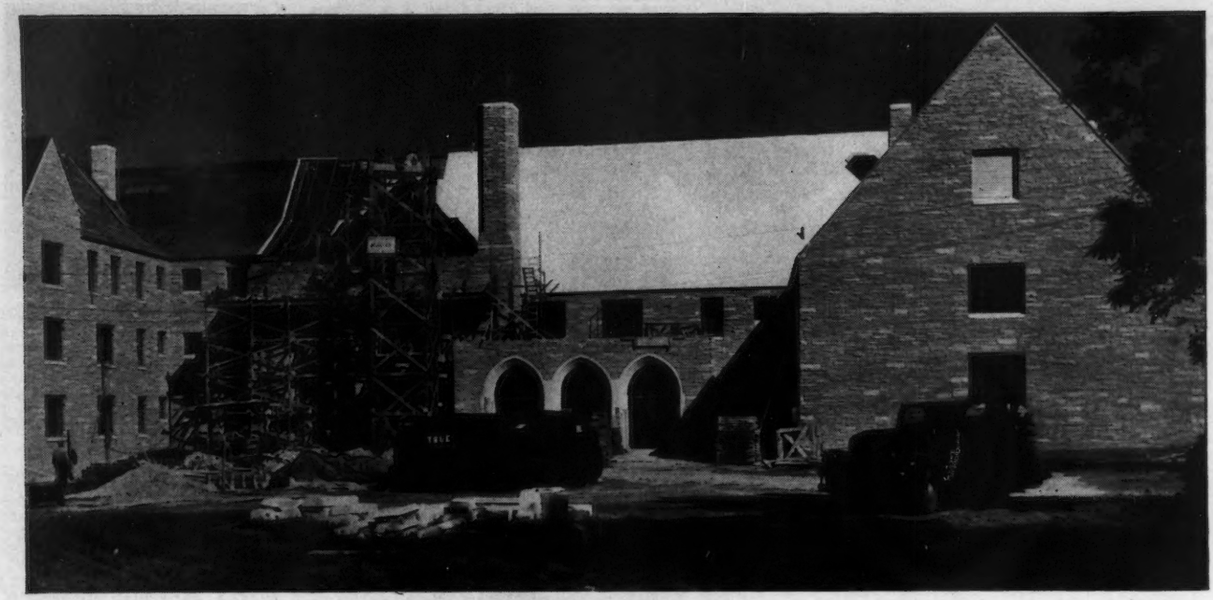
"MECCO" doors

ALL TYPES ROLLING DOORS
ROLLING GRILLES
ROLLING DOORS TO SPECS.
KALAMEIN FIRE DOORS
TIN IRON CLAD DOORS

THE MOESCHL-EDWARDS CORRUGATING CO., INC.
P. O. BOX 1115, CINCINNATI, OHIO

# for better school buildings...

# KAYLO ROOF TILE



Photograph shows application of Kaylo Roof Tile to a new dormitory of the University of Tulsa, Tulsa, Oklahoma. Architect—Atkinson & Murray. Contractor—Al Ward Construction Co.



Resists FIRE... ROT... HEAT LOSS... WATER DAMAGE

## OTHER KAYLO BUILDING PRODUCTS

**Kaylo Firedoors,** with their incombustible core, have an Underwriters' rating for Class B and C openings. Handsome in appearance, they provide fire protection and insulating value—will not warp, swell or shrink.

**Kaylo Laminated Panels** provide finished walls which are lightweight, strong and easy to erect. They are available with surfaces of: cement-asbestos, wood veneer, metal, plastics and other materials.

Kaylo Insulating Roof Tile form a long-lasting roof deck, over which standard roofing materials are applied. Compare these advantages:

**Incombustibility** of Kaylo Tile assures protection against fire;
**Insulation Value** eliminates the need for additional insulating materials;
**Structural Strength** is more than adequate for typical roof loads;
**Inorganic Composition** insures rot-resistance—moisture does not damage Kaylo Tile;
**Light Weight** permits the use of lighter supporting structural members;
**Easy Application** expedites the completion of flat or pitched roof decks.

When planning new school buildings or to modernize existing units, look into the outstanding advantages offered by Kaylo Insulating Roof Tile.

# KAYLO®

## INSULATING ROOF TILE

**OWENS-ILLINOIS GLASS COMPANY**
**Kaylo Division • Toledo 1, Ohio**

SALES OFFICES:
Atlanta • Boston • Buffalo • Chicago • Cincinnati • Houston • Minneapolis • New York
Oklahoma City • Philadelphia • Pittsburgh • St. Louis • Toledo • Washington

**SEND COUPON FOR LITERATURE ON KAYLO BUILDING PRODUCTS**

**OWENS-ILLINOIS GLASS COMPANY**
**Kaylo Division, Dept. N-24, Toledo 1, Ohio**

Gentlemen: Please send me literature about the following:
☐ Kaylo Roof Tile ☐ Kaylo Laminated Panels ☐ Kaylo Firedoors

NAME.....

ADDRESS.....

CITY.....STATE.....

CANADA (*Cont. from page 212*)

proximately six by nine in. in size and ran in the three Vancouver daily papers. They were positioned on the financial page to catch the eyes of the city's business men. Slick proofs were then mailed to 1000 top executives and decision-makers in Vancouver.

To give the Institute members a chance to meet the press, a cocktail party was held at the Vancouver Club. The publishers, managing editors, business editors, and advertising managers of the three dailies, together with representatives of the wire services and trade journals, were invited.

Arrangements have also been made for architects to appear on forum-type radio shows and opportunities are being sought for them to speak to service clubs, boards of trade and other groups.

### *Building Industry Starts Plans for Civilian Defense*

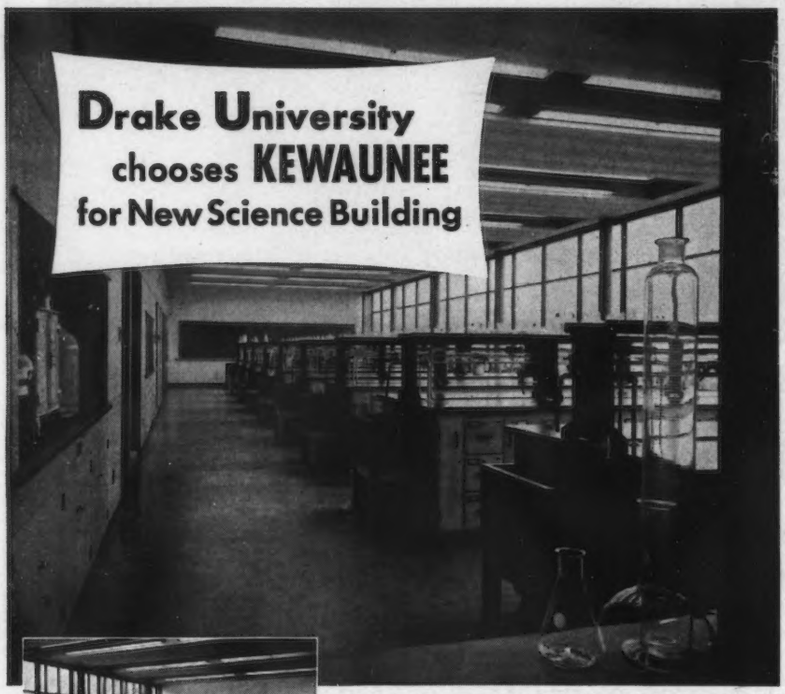
Establishment of a Liaison Committee on Civil Defense has been announced by Robert Drummond, president of the Canadian Construction Association.

"The C.C.A. has long pledged its unrestricted cooperation to the government on all defense matters," said Mr. Drummond, "and after consultation with Major-General Worthington, coordinator of civil defense, the Liaison Committee has asked its affiliated Builders' Exchanges throughout Canada to set up local committees to deal with the construction phases."

Though the nation's civil defense program is still largely in the planning stage, Mr. Drummond declares it is obvious that the construction industry must be prepared to play a leading role in mitigating the effects of an attack. As examples, he cited debris clearance and demolition work, restoration of public utilities and lines of communication, rescue of victims trapped by falling buildings, and shelter erection.

The chairman of the Liaison Committee is Col. G. E. Crain, Ottawa general contractor, who reports that already 15 Builders' Exchanges in as many cities have responded to the C.C.A. appeal.

(*Continued on page 216*)






Three of the many science rooms at Drake University, equipped by Kewaunee. TOP—General Chemistry Laboratory; CENTER—Pharmacology and Physiology Laboratory; BOTTOM — Physical Science Laboratory.

Design, engineering, function, quality, value. All entered into the selection of equipment for the new Science Building at Drake University. And *on every count,* Kewaunee Laboratory Equipment stood at the head of the class!

Kewaunee design and engineering conform to the needs of the *future* as well as the present. Both wood and metal construction is "Custom-quality"—mass-produced to bring costs down to the "ready-made" level.

See for yourself how Kewaunee can help *you* with your laboratory designs. Write today for your free copy of the new Kewaunee Catalog of Laboratory Equipment. Please indicate whether interested in wood or metal construction.

*Representatives and Sales Offices in Principal Cities*

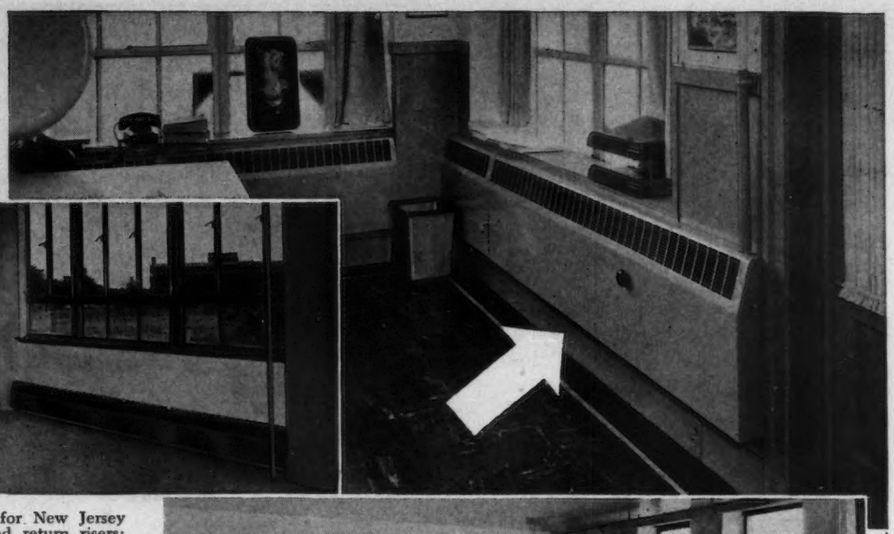
Kewaunee Mfg. Co.

C. G. Campbell, *President*

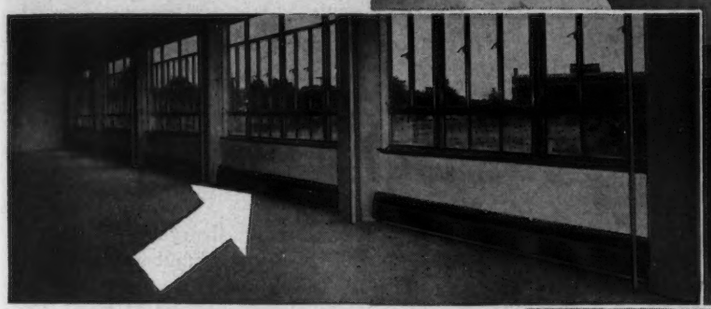
5046 S. Center Street Adrian, Michigan


*Below: Shawinigan Building in Montreal, head office of one of Canada's largest water and power companies. Archibald & Illsley, A. Leslie Perry, Associate Architects*

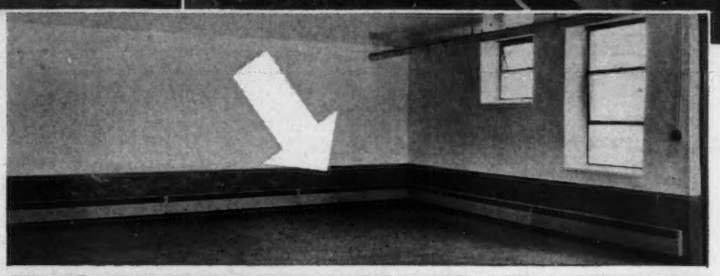




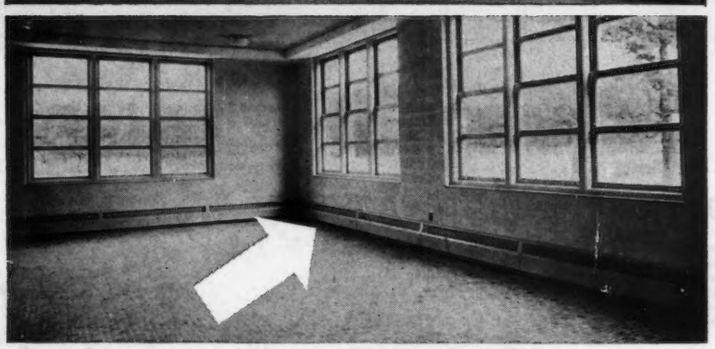
Webster Walvector in office of Mulholland-Harper Company, Philadelphia. Installation by contractor Herbert Baker & Co. Piping is concealed within enclosure.



Webster Walvector in new office building for New Jersey State Highway Department. Note supply and return risers; location of Walvector trim piece connectors immediately below window mullions, facilitating installation of office partitions. A Webster Moderator Steam Heating installation, Micklewright & Mountford, Architects, Runyon & Carey, Consulting Engineers, Philip S. Slack & Company, Heating Contractors.



Unheated basement room made available for parochial school classroom use. Webster Walvector in St. Robert's School, Chester, Pa. heats added room with hot water through heat exchanger, without change in main steam heating plant. Modernization installation by heating contractor John A. Morgan, Chester.



Walvector in Norfolk, Va., Catholic High School Lunchroom. Gleeson & Mulrooney, Architects, T. David Fitz-Gibbon, Associate Architect, M. G. Flurer, Consulting Engineer, Coley & Petersen, Heating Contractors.

# SOLVES DESIGN PROBLEMS

Webster Walvector, the new idea in wall radiation, is daily solving engineers' heating design problems in new buildings and in modernization.

Illustrated here are four typical installations—an outstanding reinforced concrete structure for the N. J. State Highway Department; an interior of one of the most impressive, large, new Catholic high schools; a modernization of an industrial plant office; a conversion of a school basement into a useful classroom.

Here are some of the reasons why Webster Walvector solves design problems:

*Walvector* spreads the heat the full length of the wall, does away with hot spots, provides the really-wanted mild heating.

*Walvector* is out of the way, fits in splendidly in single story or multi-story buildings.

*Walvector* provides space for concealing much piping exposed with older types of radiation.

*Walvector* serves as readily with forced hot water as with steam . . . with forced hot water it can be used in "series connection" on perimeter heating principles developed by Webster.

*Walvector* lessens installation labor on steam jobs . . . with wall to wall installation long and complicated runouts are eliminated.

*Walvector* has high output, low weight.

*Walvector* assures clean heating, has ample sponge rubber gasket seal between mounting angle and wall.

Write for Bulletin B-1551 for complete dimensions, ratings, specifications, technical data.

Address Dept. AR-11

**WARREN WEBSTER & COMPANY**, Camden 5, N. J.
Reps. in Principal Cities • *In Canada, Darling Bros., Ltd., Montreal*

**Webster WALVECTOR**
**For Steam and Hot Water Heating**

"It is expected," said Colonel Crain, "that organization in the construction industry will proceed at an accelerated rate in cooperation with civic authorities."

### *Postwar Urban Growth Is Treated in New Brochure*

A most interesting brochure, "Problems of Canadian City Growth," has been published by the Community Planning Association of Canada.

Author is Dr. Albert Rose, assistant professor of social work at the University of Toronto.

The brochure assesses the strides made by urban building since the war, and reviews some of the administrative problems that have arisen as waves of construction swept outward across municipal boundary lines.

CANADA (*Cont. from page 214*)

Information on almost all Canadian metropolitan centers with a population of 60,000 or over is presented. Maps and graphs are used to show their area, the housing stock they possess, and the value of the manufacturing plant they have acquired. The material is compiled so as to facilitate comparison of one center with another.

"Problems of Canadian City Growth" reveals the distribution pattern of new industry, and by relating it to shelter data, indicates how shifts of industrial concentration can intensify local housing shortages.

For instance, Calgary and Edmonton had nearly the same number of dwellings in 1941, and built almost exactly the same number from 1945 to 1949; yet Edmonton has had four times as much postwar industrial construction as Calgary. Greater Winnipeg contains five dwellings for every three in greater Hamilton; yet Hamilton has acquired three times the value in postwar factories that Winnipeg has. Greater Montreal and Toronto possess less than half the dwellings in the 14 cities examined; but they, the two largest metropolitan areas, have witnessed four dollars' worth of new factory buildings for every three dollars' worth in the other 12 centers put together.

### *Permit Canadian Bids on U.S. Newfoundland Work*

Canadian contractors are to be given a chance to bid on the construction of additional facilities at the U. S. Naval Operations base at Argentia, Newfoundland. Cost of the work is expected to exceed $1,500,000.

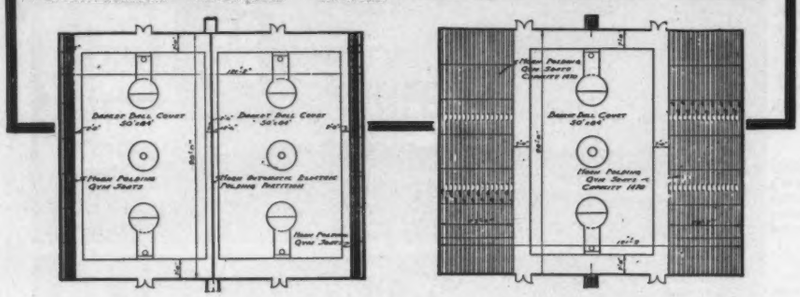
Tenders will be submitted through the Canadian Commercial Corporation, federal agency handling this country's national defense building program. Before Newfoundland became a province of Canada, Canadian contractors seldom had an opportunity to bid on U. S. Government jobs on the island. Contracts invariably were let to American firms.

### *Sculptors Seek Wider Market*

The Sculptors' Society of Canada (Elizabeth Wyn Wood, president) recently held a special meeting at Queen's University, Kingston.

Listed high on the agenda was the matter of future exhibitions. It was decided that stress will be laid on enabling Canadians to see how the sculptor can serve them in relation to modern gardens and buildings.


UTILIZE YOUR GYM SPACE WITH HORN

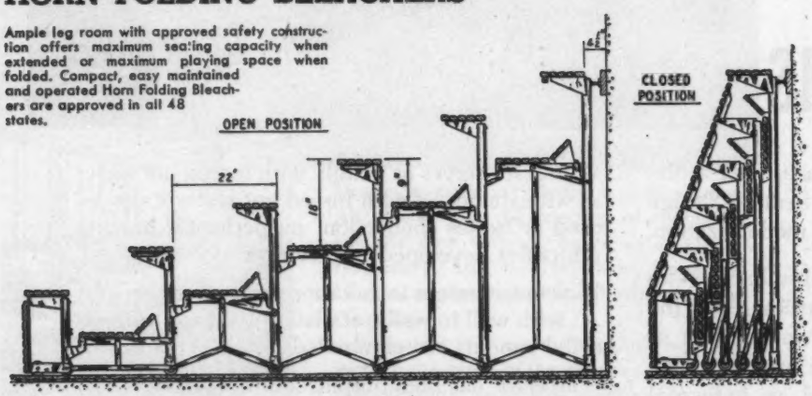


Two regulation basketball courts separated by a Horn Automatic Electric Folding Partition. Horn Folding Bleachers in folded position.

HORN FOLDING BLEACHERS extended increases the seating capacity for the BIG GAME! Horn Folding Bleachers will meet your requirements.

HORN FOLDING BLEACHERS

Ample leg room with approved safety construction offers maximum seating capacity when extended or maximum playing space when folded. Compact, easy maintained and operated Horn Folding Bleachers are approved in all 48 states.

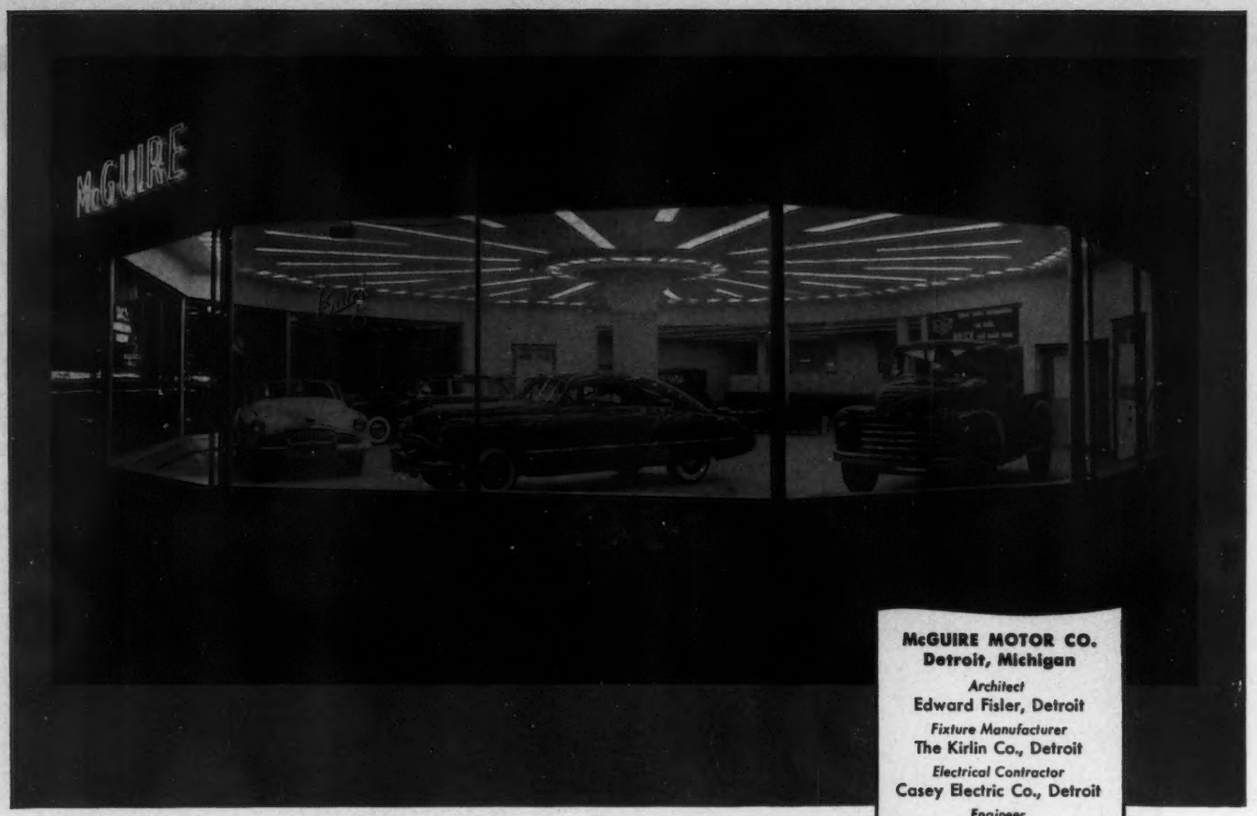



| ROWS | FLOOR SPACE IN USE | FLOOR SPACE *CLOSED | **HEIGHT | ROWS | FLOOR SPACE IN USE | FLOOR SPACE *CLOSED | **HEIGHT |
|---|---|---|---|---|---|---|---|
| 3 | 4' 9" | 1' 8¾" | 3' 0" | 12 | 21' 3" | 4' 3½" | 9' 9" |
| 4 | 6' 7" | 2' 0½" | 3' 9" | 13 | 23' 1" | 4' 6½" | 10' 6" |
| 5 | 8' 5" | 2' 3½" | 4' 6" | 14 | 24' 11" | 4' 9⅝" | 11' 3" |
| 6 | 10' 3" | 2' 6⅛" | 5' 3" | 15 | 26' 9" | 5' 1¼" | 12' 0" |
| 7 | 12' 1" | 2' 10¼" | 6' 0" | 16 | 28' 7" | 5' 4⅜" | 12' 9" |
| 8 | 13' 11" | 3' 1⅜" | 6' 9" | 17 | 30' 5" | 5' 8 " | 13' 6" |
| 9 | 15' 9" | 3' 5 " | 7' 6" | 18 | 32' 3" | 5' 11⅝" | 14' 3" |
| 10 | 17' 7" | 3' 8⅝" | 8' 3" | 19 | 34' 1" | 6' 2¾" | 15' 0" |
| 11 | 19' 5" | 3' 11¾" | 9' 0" | 20 | 35' 11" | 6' 6⅛" | 15' 9" |

SINCE Horn 1909

*Dimension includes 4½ in. space between top seat and wall.
**Height in open position same as closed. For Bleachers higher than 20 Rows write for complete details and dimensions.

HORN BROTHERS COMPANY
DIVISION OF HORN INDUSTRIES FORT DODGE, IOWA, U.S.A.




**McGUIRE MOTOR CO.**
**Detroit, Michigan**
*Architect*
Edward Fisler, Detroit
*Fixture Manufacturer*
The Kirlin Co., Detroit
*Electrical Contractor*
Casey Electric Co., Detroit
*Engineer*
Roy W. Covey, Detroit
*Glass*
Corning ALBA-LITE

# For Lighting That Sells— Use CORNING ALBA-LITE




Here is a showroom lighting installation that is truly unique. With a light intensity of 82 foot candles and fixtures in an unusual radial pattern, it stands out day and night. To achieve this customer-attracting effect, Corning ALBA-LITE was specified.

Despite the high level of illumination in this installation, ALBA-LITE produces comfortable levels of panel brightness. Its non color selective properties assure that finishes are shown to best advantage. Even unlighted, the soft opal of ALBA-LITE presents an attractive appearance.

With an efficiency of over 90%, ALBA-LITE gives you maximum light transmission thereby reducing wattage requirements. Its smooth surface makes cleaning easy—keeps maintenance costs low. ALBA-LITE will not warp or sag in fixture frames and color transmission always remains true.

Available either flat or bent ALBA-LITE may be used for direct, semi-direct, semi-indirect and completely luminous ceiling. For complete information send for Bulletin LS-17.

PYREX

**CORNING GLASS WORKS**
**CORNING, NEW YORK**
*Corning means research in Glass*

**FOR EFFICIENT, ATTRACTIVE LIGHTING...**
CORNING ALBA-LITE for diffusion of fluorescent light ... CORNING FOTA-LITE for high level illumination ... CORNING brand LENS PANELS and PYREX brand LENSLITES for prismatic light control

**CORNING GLASS WORKS**
**Dept. AR-11, Corning, N. Y.**
Please send me a free copy of your Bulletin LS-17 describing Corning ALBA-LITE.

Name_____ Title_____
Firm_____
Address_____
City_____ Zone_____ State_____

# Right for every s




**1.** This Kindergarten in the Wall Township Grade School, Monmouth County, N. J., clearly shows

## the 4-square features of

More and more architects are finding that Nairn Linoleum gives every quality most desired in school floors! Its wide range of colors and patterns gives unlimited scope for original and distinctive effects . . . makes it simple to meet any special requirements. For over 30 years, Nairn Linoleum installations have proved enduring and economical under the heaviest foot traffic. Its smooth, crevice-free surface is easy to clean, sanitary, foot-easy, and quiet. All in all, it assures you and your client maximum return in beauty, long life, and trouble-free service.

*For your specifications: Nairn Linoleum – Nairn Wall Linoleum – Nairn Asphalt Tile. Congoleum-Nairn Inc., Kearny, New Jersey*

**NAIRN LINOLEUM**

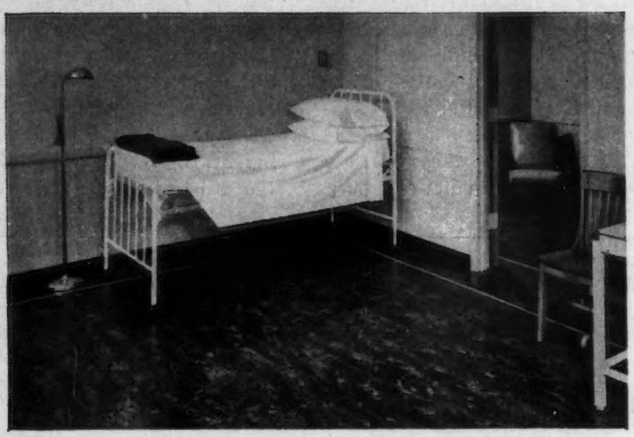
Trademark ®

© 1950, Congoleum-Nairn Inc.

# school flooring need...



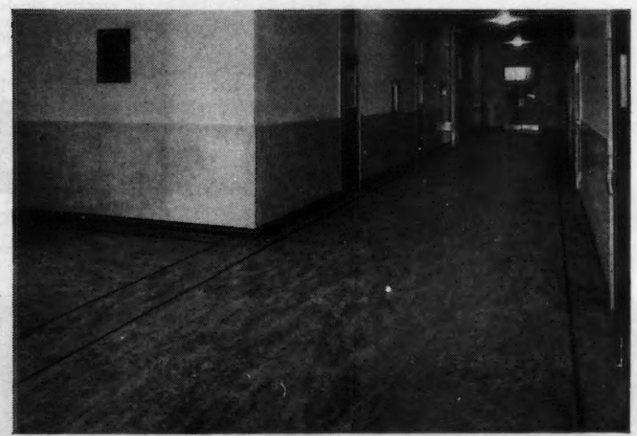

the unusual decorative effects for special purposes easily achieved with Nairn Linoleum!



**2.** In the Health Room, Nairn Linoleum makes possible true cleanliness. No place for germs to lurk in its crevice-free surface. Sanitary protection at its best!



**3.** Classrooms in this school are naturally floored with Nairn! Its true resilience reduces the noise of busy feet . . . promotes quiet, foot-easy walking always!



**4.** School corridors carry a constant flow of foot traffic. Here is where Nairn proves itself to be most economical with its long life and easy maintenance.

## Nairn Linoleum!

NAIRN
SATISFACTION GUARANTEED OR YOUR MONEY BACK

1. Long Life
2. Enduring Beauty
3. Easy Maintenance
4. True Resilience

For FLOORS and WALLS

## ARCHITECTURAL ACOUSTICS

(*Continued from page 160*)

tion. We go through the same procedure for the other principal interior surfaces and sum up the contributions of these several elements. For individual items such as chairs and persons, the number of absorption units for the item is usually given directly, since it is much less convenient to compute areas in these cases. Where the exact material in question is not listed in the available tables, we must estimate values from those given for similar materials.

With the summation of all the absorbing elements in the room and the volume of the room we can now calculate the reverberation time either from standard formulas or directly from charts plotted from the formulas. Such a chart has been made and is shown in Fig. 5. Any value of $T$ can be read off once we know the volume and the number of absorption units. Or, working the other way, the chart shows how many units are needed to give a specified $T$ in a room of given volume.

This chart involves two simplifications which should be mentioned in passing, but are too specialized to warrant discussion here. First, the value of $T$ depends to some extent on the shape of the room, in addition to its volume and absorption. This shape dependence is appreciable for highly absorptive rooms, and for rooms of unusually elongated shape. Also omitted in Fig. 5 is the effect of absorption in the air itself. This is a significant factor in *large* rooms and at frequencies about a few thousand cps. The air absorption reduces the reverberation below that calculated from surface absorption alone. This effect should be included in the analysis of critical problems such as radio studios and concert halls.**

Having found the total number of absorption units (at each of several frequencies) required to give the desired reverberation characteristics, we must proceed to the selection of suitable finishes for the room which will satisfy our requirements. In the modification of existing rooms, this may involve the addition of special sound absorbing materials in the form of acoustic tile, or carpeting or draperies. There have been cases in which existing rooms have had too low a reverberation time.

### *Application of Sound Absorbents*

The selection and placement of finish materials for reverberation control is not a matter that can be described fully in a few paragraphs, but some general remarks can be made. In some rooms it is not necessary to provide sound absorbing materials in addition to those provided by the audience (4 absorption units each ) and the other normal furnishings of the room. In most cases we must use a certain amount of special sound absorbing materials to achieve optimum reverberation.

We have unfortunately acquired the habit of using a stock solution for the application of acoustic materials to rooms — cover the entire ceiling. Now this is an easy solution, and often the only feasible one for the more fragile materials. But it is usually the wrong solution in rooms where good hearing conditions are important, although it may be satisfactory for offices, shops, play spaces, etc., in which the material is installed for noise control only. One

** *See Knudsen, V. O. and Harris, C. M., Acoustical Designing in Architecture, New York, John Wiley & Sons, Inc., 1950.*

(*Continued on page 222*)

better control of VENTILATION
better control of LIGHT
with Dalmo

AUTOMATIC MULTIPLE WINDOWS
Wood Projected Awning Type



*Fine Arts Building, So. Pasadena High School, So. Pasadena, Cal., Marsh, Smith & Powell, Architects*

DALMO WOOD
WINDOW HARDWARE
For the Nation's Schools

Dalmo Windows give full control of ventilation from 1% to 100% of the window opening. The angle of the open sash directs air currents upwards, eliminating drafts. The air diffuses from the ceiling and circulates evenly through the room. The open sash sheds rain, deflects wind and allows controlled ventilation under all weather conditions.

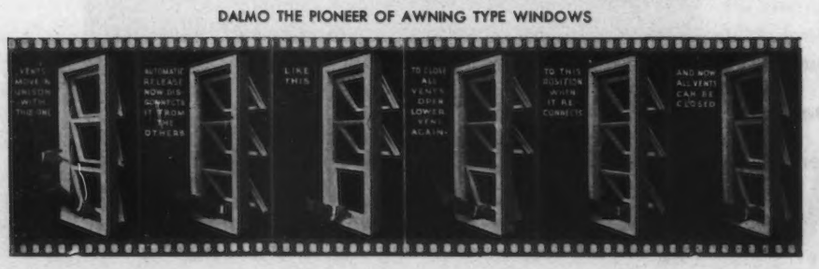
Dalmo Windows allow the use of venetian blinds or window shades. The sash can be operated without disturbing blind or shade. Window shades may be attached to the sash itself to control daylight illumination and give uniform light distribution without interfering with ventilation.

See our CATALOG in SWEET'S FILE ARCHITECTURAL

DALMO Continental Inc.

1304 Wilshire Boulevard, Los Angeles 17, California
*Eastern Sales Office:* Thorntown, Indiana

DALMO THE PIONEER OF AWNING TYPE WINDOWS



# *New beauty for school and college installations at lower cost—with* KENTILE




## 6 Reasons Why Leading Architects Specify KENTILE

**LOW COST** Inexpensive to buy...to install...to maintain.

**BEAUTY** Colorful Kentile floors can be designed in a wide variety of rich colors.

**DURABILITY** Colors can't wear off. They go clear through to the back of each tile.

**SAFETY** Provides a confident footing for all. Virtually fire-resistant.

**QUIET** Kentile is a resilient material that cuts down noise and clatter of footsteps.

**EASY TO CLEAN** Mild soap and water keeps Kentile clean...occasional no-rub waxings keep it gleaming.



*More and more architects are specifying Kentile for school corridor walls, as well as floors.*

• For institutions, and for private homes, Kentile offers unique advantages that are quickly appreciated by your clients.

Kentile can be installed on concrete in direct contact with the ground. It can be laid over double T&G floors, or directly over plywood...and is also ideally suited for installation on radiant heated concrete slabs.

Kentile is laid tile by tile—meaning installation and labor costs are cut to a minimum. And you're sure of enthusiastic public acceptance when you specify Kentile, because of the large-scale advertising, with big color ads in leading magazines.



**KENTILE®**

*The Asphalt Tile of Enduring Beauty*

**DAVID E. KENNEDY, INC.,** 58 2nd Avenue, Brooklyn 15, N.Y.

## ARCHITECTURAL ACOUSTICS

(*Continued from page 220*)

frequently sees school buildings in which an acoustic tile has been installed on all ceiling surfaces of classrooms, auditoriums, corridors, gym, etc. In the noisy spaces this is excellent, but it can make for very difficult hearing conditions in the auditorium, and does not solve the problem well in the classroom. As we have pointed out in Part One of this article, the ceiling is the one surface that can be most helpful in providing useful reflections between speaker and listener. In addition to having reduced the value of our one best reflecting surface by treating the entire ceiling, we have usually used a great deal more material than we need for reverberation control, thus making the room too "dead" for ideal listening conditions.

As a general rule, the special sound absorbing materials needed for reverberation control should be placed around the edges of the ceiling, on upper wall surfaces (especially rear wall for echo control) and on other specific "trouble zones." In the classroom, for example, the upper wall surfaces above the blackboards are ideal locations for acoustic materials — many times only these areas need be treated and nothing placed on the ceiling; or perhaps only a small strip of material is needed on the ceiling near the windows. The large flat-ceilinged auditorium should never have acoustic tile on the center portion of the ceiling, again because this surface can be so helpful in increasing the intensity of sound in the rear seats. This type of placement of acoustic materials calls for greater architectural ingenuity than does the conventional treatment of the entire ceiling, but it makes for greatly superior listening conditions.

### *Available Materials*

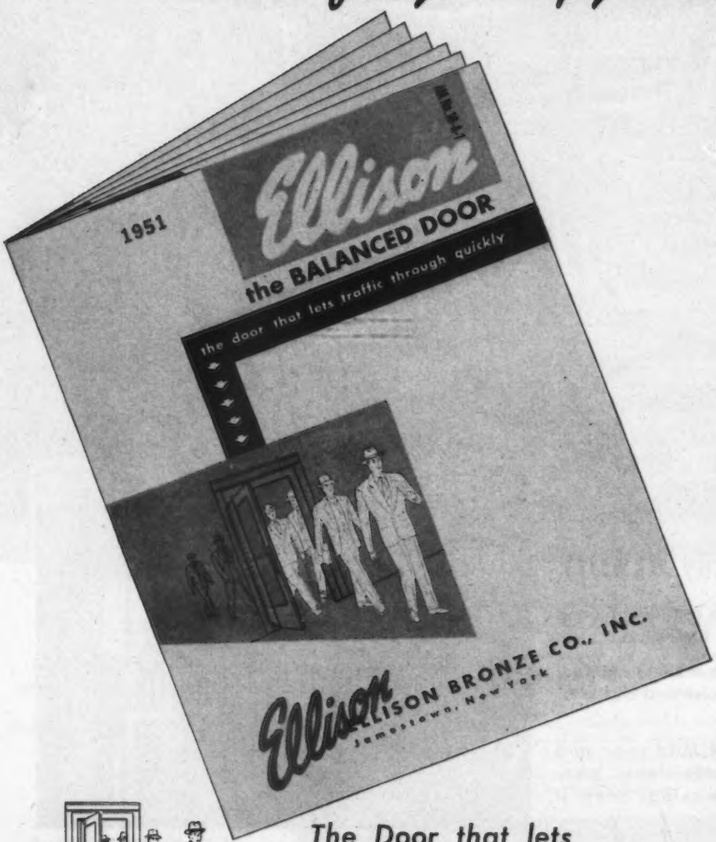
There are available commercially many types of sound absorbing materials. These materials vary in appearance, durability, paintability, original efficiency and cost. In the integration of sound absorbing materials, it is not always necessary to use these materials in the conventional fashion. It may be, for example, that one wishes to introduce into a brick wall certain areas which are sound absorbing, but does not wish to cover that portion of the wall with an acoustic material. It is possible to place the sound absorbing element behind properly spaced openings in the brick work in these areas, giving not only an interesting pattern but providing excellent sound absorbing characteristics. A surface need not necessarily look "acoustic" to be effective in reverberation control. Many times we wish to suppress the absorption of the higher frequency sounds in order to improve the "brightness" of the room. In these cases it may be highly desirable to cover the sound absorbing surfaces with a facing in which the openings are rather widely spaced (perhaps 4 or 5 in. apart). There are many possibilities in the use of wood, metals, and masonry materials together with fabrics as facings and modifiers for conventional sound absorbing materials.

There are cases in which the perforated acoustic tiles are the most appropriate materials because of their high paintability and light reflection. In other cases an inexpensive blanket of mineral or glass wool may be the most appropriate choice where it is to be covered by some other surface treatment. The thickness of the sound absorbing element is an important consideration in most applications and is dictated to some

(*Continued on page 224*)


THIS IS YOUR 1951 CATALOG

*Write for your copy now!*






*The Door that lets TRAFFIC through QUICKLY*

Ellison

ELLISON BRONZE CO.
Jamestown, New York
*representatives in 71 principal cities*

the BALANCED DOOR

# Your Modern Rooms deserve the Modern Heatilator* Fireplace



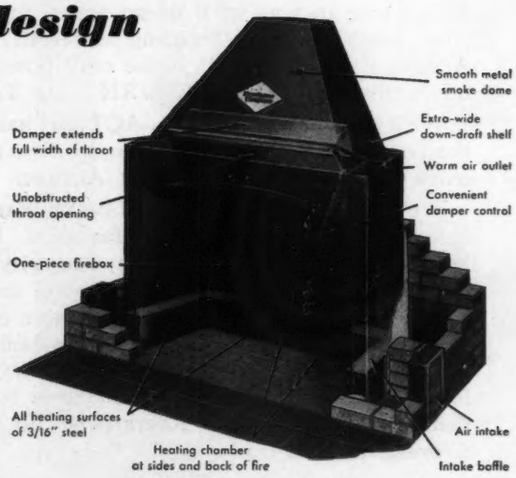
## *Get trouble-free construction with no limit to mantel design*

YOU can design *any style* fireplace around the Heatilator Fireplace unit. Whether modern or traditional, you'll assure your clients of smokeless, trouble-free operation and the extra comfort of circulated heat!

The Heatilator unit provides all the vital fireplace parts in one compact form . . . no extra parts to buy or build, no chance for inexperienced masons to go wrong! It reduces time and labor, requires less materials . . . costs little, if any, more than an ordinary fireplace!

**WARMS THE ENTIRE ROOM.** The Heatilator unit draws in air from floor level, heats it, and circulates it to every corner of the room. Saves furnace operation on cool spring and fall days. In mild climates, it is the only heating equipment necessary.

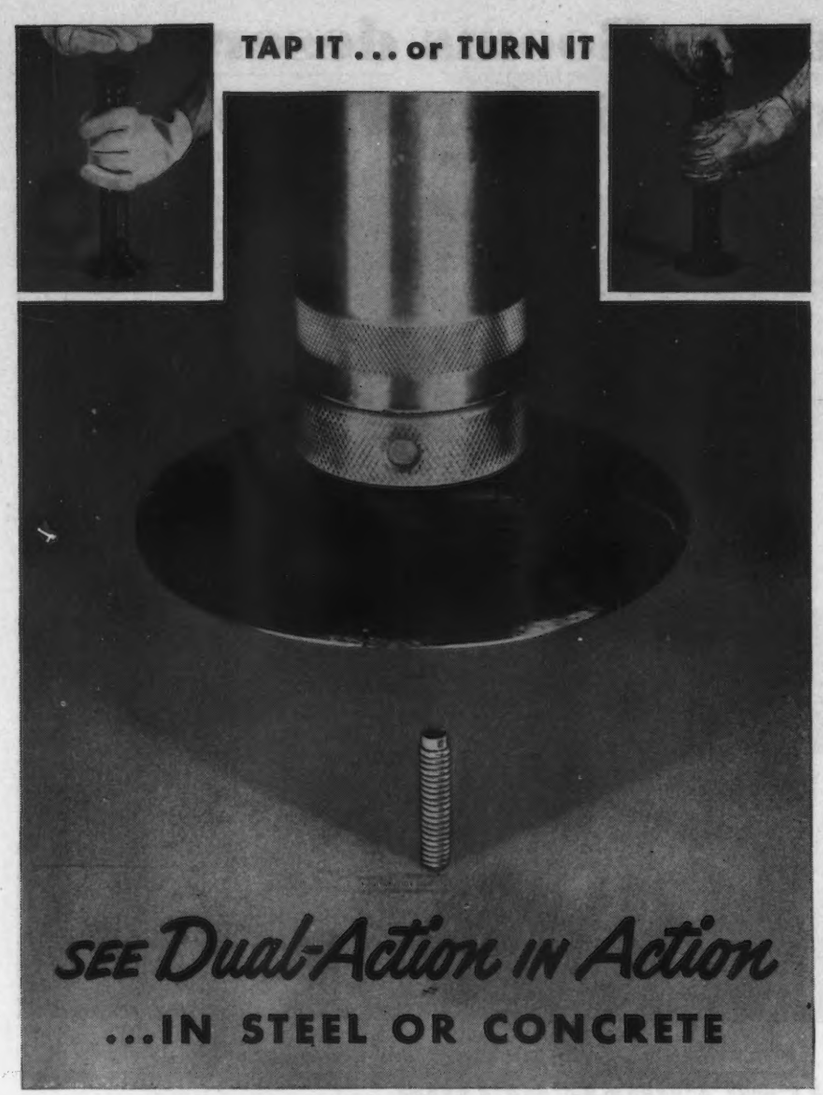
**PROVED FOR 23 YEARS.** The genuine Heatilator Fireplace was perfected over 23 years ago. Hundreds of thousands are now in successful use all over America. Write now for complete specifications and illustrations. Heatilator, Inc., 6111 E. Brighton Ave., Syracuse 5, N.Y.




**Heatilator is the registered trade mark of Heatilator, Inc.*

**HEATILATOR** *America's Leading* **FIREPLACE**

T.M. REG. U.S. PAT. OFF.




At no cost to you, we'll do an actual fastening job for you, in steel, concrete, other building materials, with RAMSET DUAL-ACTION Fastening Tool . . . the only powder-actuated tool that offers this *dual choice* of TURN . . . or TAP . . . operation.

We'll show you how DUAL-ACTION has more built-in stability than ever before. We'll prove also, the extra utility, extra flexibility, extra economy of RAMSET DUAL-ACTION.

We'll show you also, how RAMSET FASTENERS, of a smaller shank size than conventional fasteners, have equal or greater holding power and permanence; and why the DUAL-ACTION TOOL, using the widest range of steel drive pins and threaded studs, gets jobs done quicker, at lower cost than conventional methods. Help your clients get their building finished faster at less cost by specifying RAMSET FASTENING SYSTEM. Call your local RAMSET Specialist or write us for 15-minute sample demonstration. RAMSET FASTENERS, INC., *12117 Berea Road, Cleveland 11, Ohio.*

*Ramset Fastening System*
*Pioneer in powder-actuated fastening*


## Architectural Engineering

### ARCHITECTURAL ACOUSTICS

(*Continued from page 222*)

extent by the use of the room in question. If the full frequency range of musical sounds is to be heard in the room it is quite likely that a rather uniform absorption characteristic would be desirable. An inappropriate treatment would be to use only a ½ in. sound absorbing material. One might resort to a considerably thicker treatment with a facing containing widely spaced holes or slots, or one might consider the use of thin plywood as the finish material.

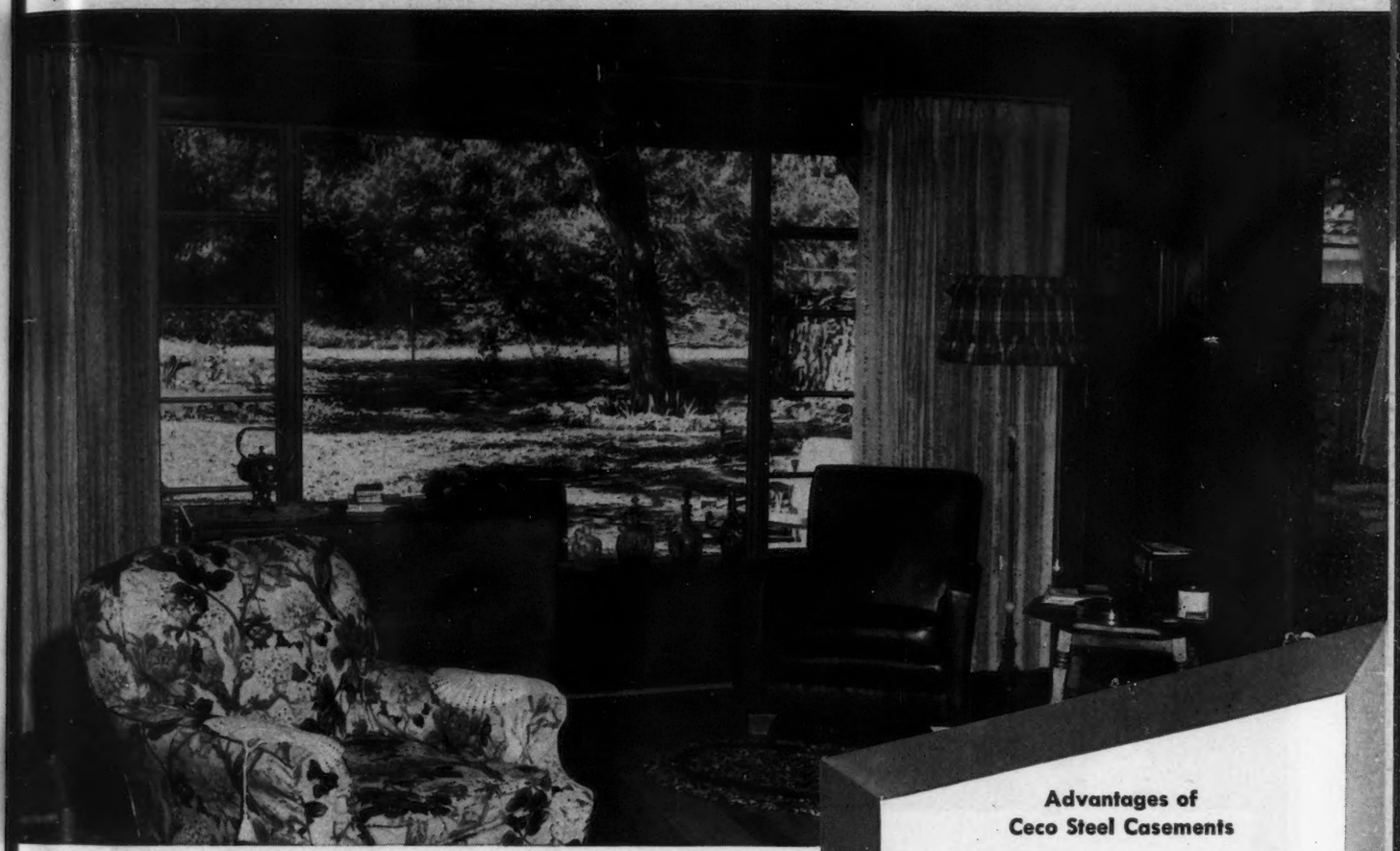
A word on acoustic plaster is probably in order. The results to be obtained from acoustic plaster vary considerably with the methods employed in its installation. More important, however, is the problem of maintenance. The usual trowel or float finish acoustic plaster cannot be successfully repainted without loss of sound absorbing efficiency, and much disappointment has followed the application of paint to such materials. Several firms are now supplying acoustic plasters which are perforated with nail holes after the plaster has been placed, and tests show that this type of material is more repaintable than the conventional smooth finish jobs.

#### *Upholstery Doubles as Absorber*

A desirable quality for any room in which listening conditions are important is that the reverberation time be independent of the audience size. This requirement cannot be met exactly without elaborate gadgetry, but a very satisfactory approximation can be had by the use of upholstered seating. The average person sitting in a chair provides about 4 units of absorption. A chair upholstered on inside of back and top of seat with a padded fabric gives about 3 to 3.5 units of absorption when it is unoccupied. Thus the variation in the total number of absorption units in the room is small with varying audience size since the empty seats substitute quite well for the absent members of the audience. This is particularly useful in an auditorium used empty for rehearsals or for any room in which the audience size may vary considerably. Also, by using upholstered seats we can minimize absorption (and waste) of sound energy in materials which would otherwise have to be applied to make the room usable with small audiences.



## Ceco Casements...
## *Designed* for the Modern Home



# Ceco Casements...
## *Engineered* for Better Living

Anyone looking out of a Ceco casement for the first time experiences something in better living. The eye crosses easily to the beauty of the outdoors—space seems limitless. Viewed another way, distant scenes become murals to revel in and contemplate. And to live with Ceco casements for even a short time is to appreciate truly sound value. For here, beauty and utility indeed are effectively combined. We believe all this can be attributed to engineering excellence . . . from design through manufacturing. When you specify Ceco casements, you know you've chosen the very best . . . you're sure of economy too—you're modern as tomorrow.

**Advantages of Ceco Steel Casements**



Controlled Ventilation



Easy to Open and Close



Easy to Wash



Easy to Screen

**CECO STEEL PRODUCTS CORPORATION**

General Offices: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

**CECO STEEL** ®

*In construction products* **CECO ENGINEERING** *makes the big difference*

**PRODUCTS**
(*Continued from page 164*)

pumps and for lighting circuits at filling stations, refineries and similar places dealing with oil products.

Conductors are insulated with vinyl compound and sheathed in a jacket that is said to be highly resistant to petroleum products. They are available in black, white, red, green, orange, blue and yellow. The wiring is available with solid conductors in sizes 14, 12 and 10 Agw. Construction Materials Dept., General Electric Co., Bridgeport 2, Conn.

### *Automatic Louvers Operated By Sun*

Automatic louvers, which keep direct sunlight out of classrooms and control the natural light within the rooms, have been developed by engineers of the Minneapolis-Honeywell Regulator Co., at the request of Architect Harold E. Burket. The vertical louvers have been installed in the new Will Rogers elementary school in Ventura, Calif.

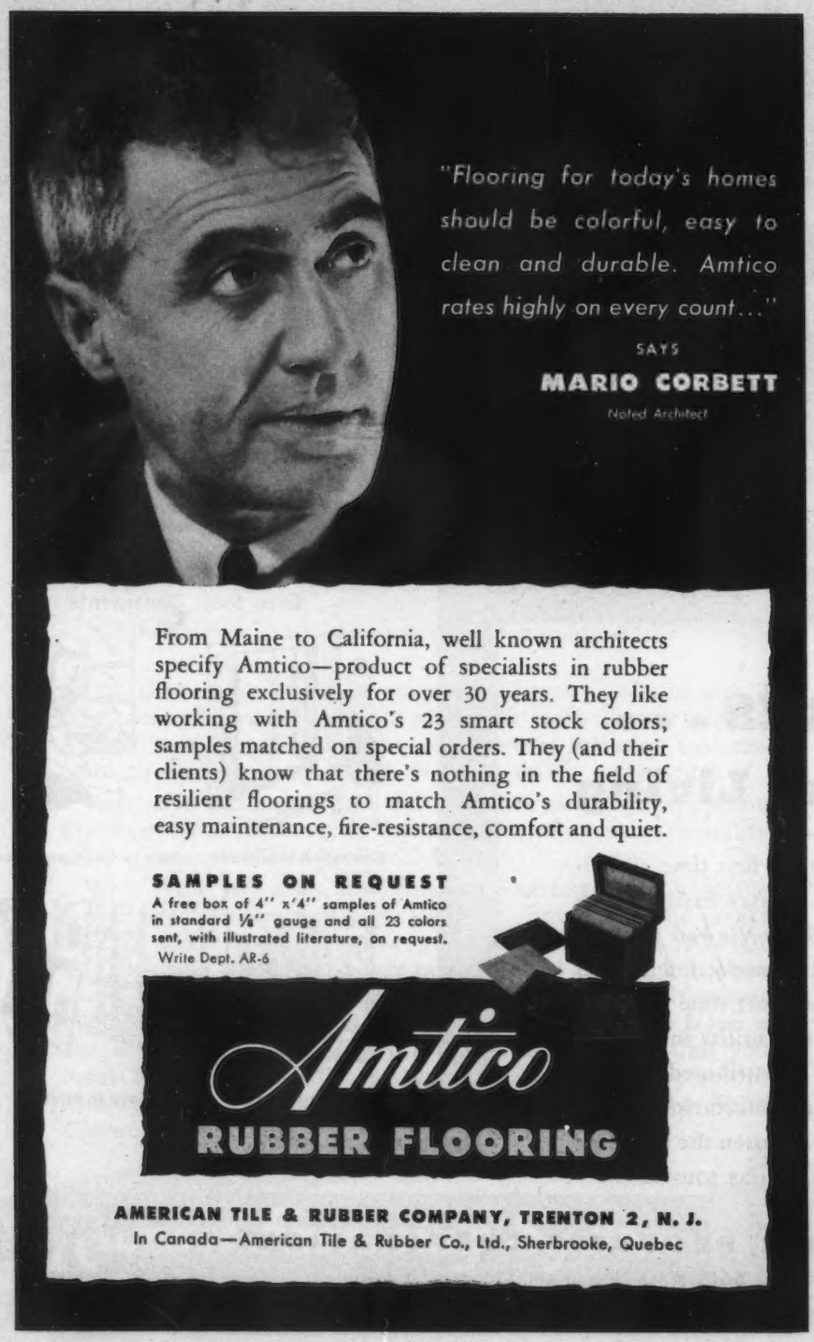




*Vertical louvers in new school (above) are automatically operated by photo electric cell and motor. A single master louver controls the entire bank (below)*

Operation is electronic: two photo-electric cells act as light sentinels, and through a system of relays energize special motors. A single master louver panel operates eleven others in the school through a series of potentiometers mounted on the shaft of the master motor. One photo electric cell is mounted directly on the pilot louver. The other is inside the window and measures the amount of light admitted to the room. The two automatically adjust the louvers for proper light balance. A teacher wishing to darken a room for movies, however, can detach her room from the system, close the louvers with a room switch and restore it to the system when the movie is over. The device is expected to find wide use in many types of buildings. Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave. So., Minneapolis 8, Minn.

(*Continued on page 228*)



# CRANE

*the preferred plumbing*

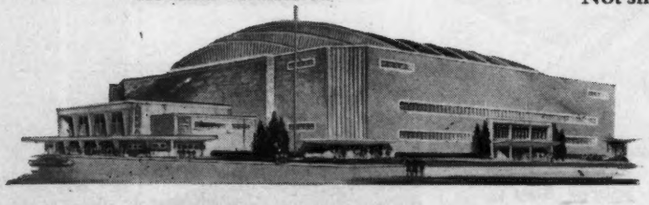


## chosen for new **Milwaukee Sports Arena**

**ESCHWEILER & ESCHWEILER, Milwaukee, Wis.**
*ARCHITECT*

**HUNZINGER CONSTRUCTION CO., Milwaukee, Wis.**
*GENERAL CONTRACTOR*

**WENZEL & HENOCH CO., Milwaukee, Wis.**
*PLUMBING CONTRACTOR*



Foreground, Crane Norwich Lavatories, vitreous china. Features: rectangular basin, splash lip, *Dial-ese* controls with interchangeable cartridge.

Background, Crane Sanitor Urinals. Slope front design assures high sanitation, minimum upkeep.

Not shown: Crane Santon Closets with new *Triumph* flush valves. New valve has replaceable plunger and seat for easy maintenance.

Crane offers a complete choice of plumbing fixtures for any commercial installation—consult your Crane Branch or Crane Wholesaler.

# CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5

*PLUMBING AND HEATING • VALVES • FITTINGS • PIPE*

## PRODUCTS

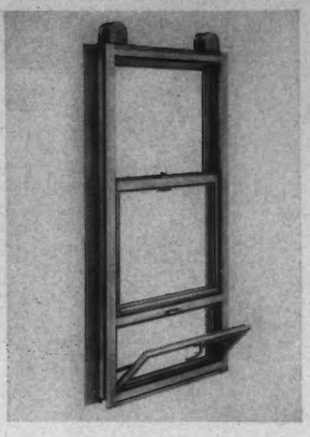
(*Continued from page 226*)

### *Aluminum Windows*

The new *Sterling* double-hung aluminum windows, featuring a built-in hopper vent, were designed for controlled ventilation of schools and hospitals. This control is possible at seating level even when the sash is raised.

The in-swinging hopper vent is an integral part of the frame to give structural strength and rigidity. If desired, it may be installed in the top, rather than the lower section of the window. The vent is equipped with white bronze hinges, anchored in reinforced jamb blocks. Concealed sliding friction arms are of stainless steel. The section can be provided with muntin bars matching those specified in the double-hung unit. Weatherstripping is of Monel metal or stainless steel.

The double-hung window carries overhead concealed clock spring balances.



*New aluminum double-hung window has hopper vent at bottom to prevent drafts*

The lower sash has a continuous lift rail. The design permits use of top-hung full-length, double sliding or half vertical screens. The windows are custom-built in sizes up to 5 ft wide and 10 ft high. Sterling Windows, Inc., 369 Lexington Ave., New York 17, N. Y.

### *Kitchen Equipment*

New models in the line of *Hotpoint* kitchen and home laundry equipment feature all-electric, automatic operation. The kitchen appliances include a double oven electric range, a combination refrigerator-freezer, an automatic dishwasher sink equipped with a food waste disposal, and a large food freezer. In addition there are matched base and wall



*Electric kitchen has automatic operation*

cabinets. Laundry appliances include an automatic washer, an electric dryer and an ironer. Cabinets match those of the kitchen equipment; the designs are simple, may be had in colors. Hotpoint, Inc., 5600 W. Taylor St., Chicago, Ill.

(*Continued on page 230*)


***For the BEST in construction steel***

***SPECIFY LACLEDE***



**Fast, Economical Construction**

Improve construction . . . cut costs . . . save time with Laclede's complete construction steel service.

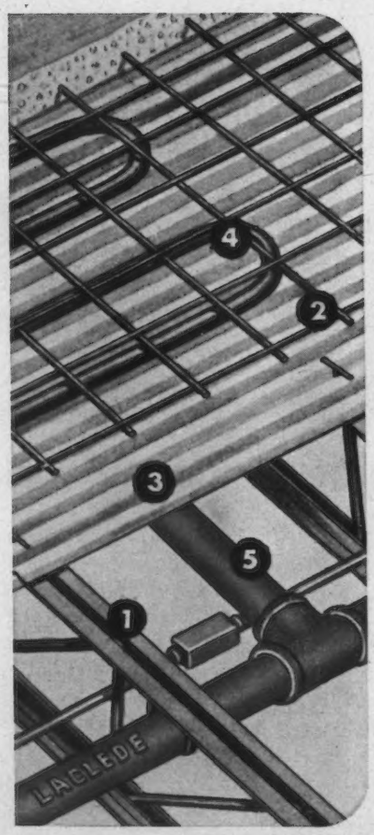
**1 STEEL JOISTS.** Light weight plus strength . . . provide new versatility in construction . . . more usable room with fewer interior columns or walls. Prefabricated for quick, easy assembly. Available in span lengths up to 40 feet.

**2 WELDED WIRE FABRIC.** Cold drawn, welded automatically, controlled to insure uniform strength. Available in rolls or sheets.

**3 CORRUGATED STEEL CENTERING.** For improved poured slab construction. Greater strength — through deep, close corrugations — minimizes sag, controls concrete, and stabilizes joists by staying the joist top chords. Attached to joists with hand-applied wire clips.

**4 STEEL TUBING.** For radiant heating.

**5 STEEL PIPE AND CONDUIT.** For plumbing and electric systems — conveniently run through open webs of joists.




**OTHER LACLEDE PRODUCTS....**

*Multi-Rib Reinforcing Bars • Spacer Bars*
*Form and Tie Wire • Spirals • Welded Stirrups*

LACLEDE STEEL COMPANY
St. Louis, Mo.

CHECK WITH THESE INDUSTRY LEADERS!

- Detroit Steel Products Co.
- R. C. Mahon Co.
- H. H. Robertson Co.
- Truscon Steel Co.

# SAVE TIME • SAVE WEIGHT • SAVE SPACE WITH THE NEW

OWENS-CORNING FIBERGLAS

## INSULATED METAL WALL PANELS



Newest development in modern construction is *insulated* metal wall panels—prefabricated units for exterior and partition walls. They save substantially on time, weight and space in the construction of office buildings, stores, factories, warehouses, schools and hospitals.

Their use is being pioneered by four nationally recognized industry leaders. Acceptance has been enthusiastic because the panels arrive at the job cut to fit—go up fast—increase usable floor space—reduce the load-bearing factor. Insulation values are exceptionally high in relation to thickness and weight.

Fenestra, Mahon, Robertson and Truscon panels are factory filled with Fiberglas* Insulation. Made of non-combustible fibers of glass, this material is used because of its high insulating efficiency, light weight, ease of fabrication, low moisture pickup—also non-settling and non-corrosive to metals.

The variety of designs in insulated metal wall panels offers you unlimited opportunities for interesting architectural treatments. They are made of aluminum, steel, stainless, metal-coated steel and protected metal and may be specified in a variety of flat or fluted surfaces, thicknesses, widths and lengths. For more detailed information see Sweet's File—Architectural.

*FIBERGLAS is the trademark (Reg. U.S. Pat. Off.) of the Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

OWENS-CORNING FIBERGLAS
T.M. REG. U.S. PAT. OFF.

OWENS-CORNING FIBERGLAS CORPORATION • TOLEDO 1, OHIO

## PRODUCTS

(*Continued from page 228*)



*Simple fluorescent fixtures produce glareless light with exposed lamps*

### *Glareless Fluorescent Tubes*

The *Ainsworth Budgetlite T-17*, a new bare-tube fluorescent fixture, is reported to cause none of the glare that is ordinarily produced by unshielded lamps. The tubes are larger in diameter (2⅛ in.) than standard lamps, and are coated with new type phosphors. They are said to give the same amount of light per watt — about 40 lumens. The life of the lamps is claimed to be about 5750 hours.

The fixtures for the lamps are very simply designed. Thin center channels contain wiring and brackets for two rows of tubes; exposed boosters are mounted directly above the brackets. Installation, maintenance and operating costs are claimed to be low. In reducing glare, use is made of the principle that the eye sees glare only where there are severely contrasting areas of brightness in the overhead. With the proper ceiling surface, the exposed tubes are claimed to blend in with their surroundings. Ainsworth Lighting, Inc., 3810 29th St., Long Island City 1, N. Y.

### *Radiator and Range Enamel*

*Sapolin Radiator and Range Enamel* is said to be capable of coating radiators and kitchen ranges in all colors without any cracking, peeling or discoloration due to heat. The paint is ready to use out of the can, and is easily brushed on. It dries hard with a tough, porcelain-like finish that is washable and durable. A ½ pint can covers an average radiator or range. Extreme color requirements and shading can be obtained by adding pure oil colors to the basic tones available. In such cases, two coats of enamel are necessary. Sapolin Paints Inc., 229 E. 42nd St., New York, N. Y.

### *Wallpaper*

*Thibaut Combed-Plywood Wallpaper* is a new, modestly priced paper resembling striated plywood finished in a two-tone textured effect. It is available in 12 attractive colors, ranging from light tans, pinks and greens, to very deep tones. The sturdy paper may be hung either vertically or horizontally, as desired for decorative effect. This simple design is the first of the Thibaut line for 1951. Richard E. Thibaut, Inc., 269 Madison Ave., New York, N. Y.

(*Continued on page 232*)




NO VISIBLE WEAR

AFTER *30* YEARS OF CONSTANT USE!

Stairs get a lot of punishment in 30 years under the thousands of busy feet which go up and down them—year in, year out. Yet this unretouched photograph (just taken) of the "Feralun" stair treads, installed 30 years ago in the plant of the Dennison Manufacturing Co. at Framingham, Massachusetts, shows no evidence of more than a quarter-century's "foot traffic." 30 years of resistance to wear! 30 years of non-slip underfoot safety! Good for many years to come!

Examples like this show why architects, engineers and builders insist on "Feralun"* treads, nosings and plates. Made of cast iron with wear-resistant abrasive particles embedded in walking surfaces, "Feralun" provides a sure-footed "grip" that keeps feet from slipping—and wears and wears. The coupon below will bring you full information on "Feralun." Send it today.

**Also available in Bronze*—(Bronzalun), *Aluminum*—(Alumalun), *and Nickel Bronze*—(Nicalun). ®

AMERICAN ABRASIVE METALS CO.

IRVINGTON 11, N. J.

AMERICAN ABRASIVE METALS CO.
470 COIT STREET
IRVINGTON 11, N. J.

(AR 11-50)

Gentlemen: Please send me full information on Feralun.

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....

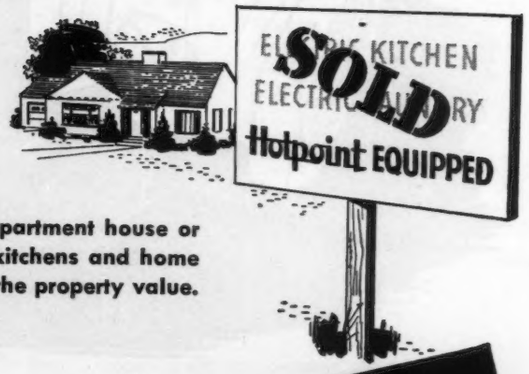
# Here's what Sells Homes...



# Hotpoint All-Electric Kitchen

Today's overwhelming demand by America's homemakers for complete, conveniently modern electric kitchens should be a cue to the planning of progressive home builders.

A recent survey made by one of the leading building publications proved conclusively that among all new features being offered in today's new homes, modern kitchens created more sales appeal than any other factor.




**Whether you are remodeling or building a single dwelling, an apartment house or an entire subdivision, the use of Hotpoint Home Appliances in kitchens and home laundries means a faster sale or rental . . . and a big increase in the property value.**

*Write now for free literature on Hotpoint Home Appliances. Hotpoint will gladly give you helpful counsel in kitchen and home laundry planning for your particular project.*

## Close the Sale with Hotpoint!

Hotpoint Inc.
(A General Electric Affiliate)
5600 West Taylor St., Chicago 44, Illinois

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALLS® • WATER HEATERS • FOOD FREEZERS
AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS • CABINETS

**PRODUCTS**
(*Continued from page 230*)

### *Multi-Color Paint*

A newly developed paint, called "*Multa-Color*" produces a spatter-dash finish of two or more colors with a single coat. A primer coat is necessary only when the paint is used on metal. It is available in flat, semi-gloss and gloss finishes. In bulk, the enamel appears as a homogeneous mass of tiny specks of color. When sprayed or applied by the dip process, the result is a uniformly distributed broken-effect finish.

The paint is claimed to give good results on porous materials, and is recommended by the manufacturers for such uses as finishes for composition walls, unpainted furniture, or to refinish items which have been previously painted. It is available initially in 16 color combinations, but may be prepared in a variety of others having two to four colors. Some of the standard combinations are: brown and white, black and white, tan and white, green and white, light and dark blue, and pink and white. United Lacquer Mfg. Corp., 1001 W. Elizabeth Ave., Linden, N. J.

### *Stud Welding For Windows*

The use of the *Nelson* stud welding method is claimed to reduce the time required for installing fasteners to hold aluminum windows in masonry. The need for drilling and tapping is eliminated. Four brackets along the top of each window frame serve as templates for locating the studs, which are welded right to the lintel through the bolt holes.

The method was used for the new building of the government's General Accounting Office in Washington, and is said to have resulted in considerable cost-saving. The work was handled with Nelson's new battery-operated power source, which permits stud welding where no power is directly available. The unit includes an automatic battery-charging device which operates on 110 volt a-c current and can be charged during or after use. It can be used for installing studs up to ½ in. diam with an automatic stud welding gun. The device consists of twelve 6-volt, 150 ampere wet storage batteries mounted on a strong frame and covered with an easily-raised hood. Wheels are optional equipment. The unit weighs about 1100 lbs and may be moved conveniently on a trailer or pickup truck. Also available is

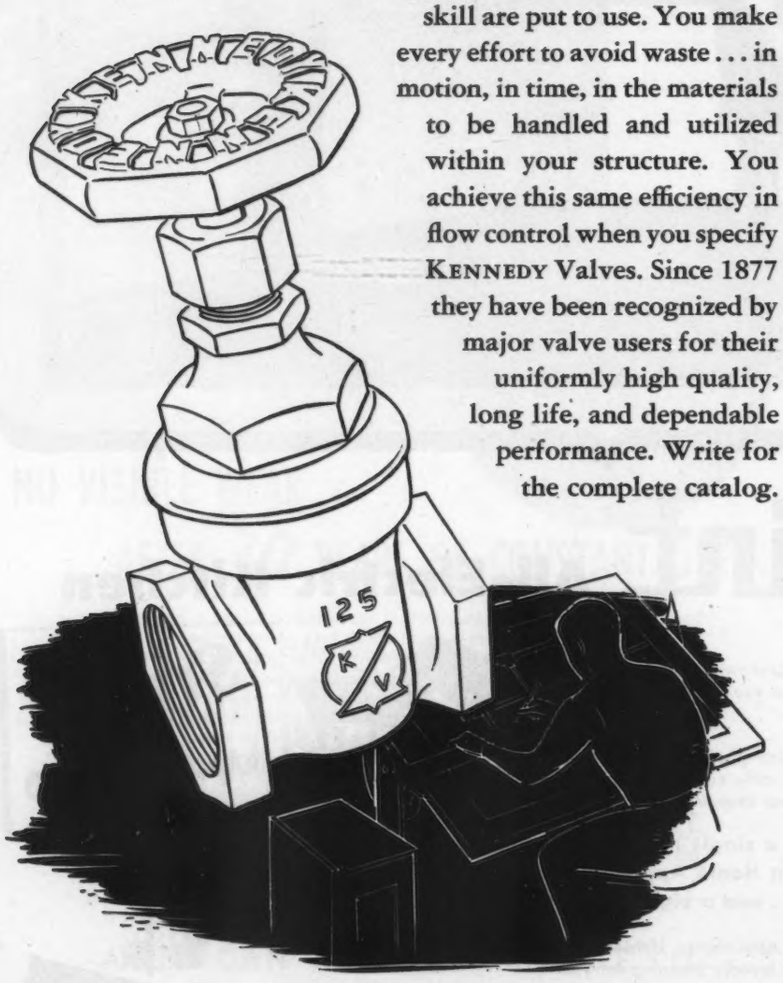
(*Continued on page 234*)



*Portable power unit permits simple installation of windows by stud-welding*


*When You Design for Efficiency . . .*

all of your experience, training and skill are put to use. You make every effort to avoid waste . . . in motion, in time, in the materials to be handled and utilized within your structure. You achieve this same efficiency in flow control when you specify KENNEDY Valves. Since 1877 they have been recognized by major valve users for their uniformly high quality, long life, and dependable performance. Write for the complete catalog.




*Established 1877*

The KENNEDY VALVE MFG. CO.
ELMIRA, NEW YORK
VALVES • PIPE FITTINGS • FIRE HYDRANTS

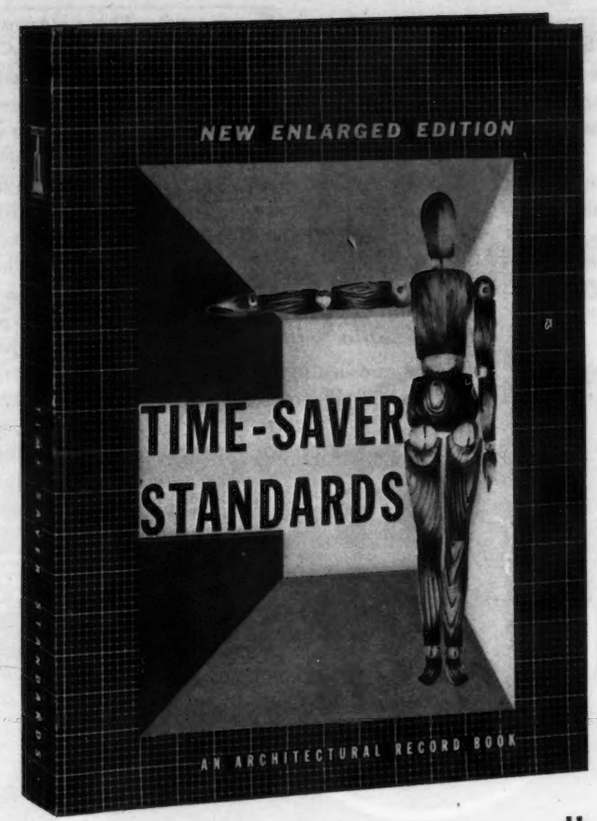
*Announcing . . .*

# New

## Enlarged Edition of

# Time-Saver Standards

**Including 232 additional pages of design data**




**A few telescopic outlines of some of the *new* Standards in this enlarged volume . . .**

***Prestressed Concrete***

How Prestressed Concrete Works — Its Advantages — Its Development and Applications — Reinforcing, Not Bonded — Prestressing — Present Applications.

***Roof Trusses for Small Houses***

Developments in Trusses — Analysis of Savings — Special Advantages of Trusses — Test Results — Special Notes and Problems — Trusses for Drywall Construction — For Plaster Finish.

***Theaters***

Structural Economy in Design — Lighting Moving Theater Interiors — Criteria for Lighting — Light Distribution — Control of Lighting — Heating, Ventilating and Air Conditioning.

***Hospitals***

Area Changes for Acute General Hospitals — Hospital Operating Room Details — Preventing Operating Room Explosions — Conductive Floors — Anesthesia Storage Rooms — Radiographic Suites.

***Schools***

Dimensions Governing School Design — Pupil's Working Heights — Data on Special Toilets — School Plastering Details — Cabinet Details — Classroom Lighting — Wardrobe Cases — Sectional Bookcases — School Lunchrooms and Kitchens — Air Supply by Natural Ventilation — Safe Stairs for Schools.

***Hardware***

Hand of Doors, Casement Windows — Types of Locks and Latches — Types of Finishes — Hinges — Door-closing Devices — Door Holders, Stops and Bumpers — Door Pulls, Push-Pull Bars and Plates, Kick Plates — Panic Exit Mechanism, Door Bolts.

***Plastics in Building***

Classifications — Fabrication — High Pressure Laminates — Reinforced Plastics — Transparent Rigid Sheet — Adhesives — Sandwiches — Flexible Film and Sheet — Coated Fabrics and Papers — Coatings — Plastic-base Fabrics and Filaments — Silicones, Fluorocarbons.

***Preventing Condensation in Dwellings***

Why Condensation Troubles Today? — Common Troubles — Control Methods — Good Practice Recommendations — Types — Use of Vapor Barriers.

***Heating Systems for Houses***

One Pipe Steam Systems: Design, Radiators, Boilers and Controls, Mains and Returns — Forced Hot Water Systems: One Pipe; Types, Equipment, Design — Forced Hot Water Systems: Two Pipe; Design, Layout — Cast Iron Baseboard Heating Systems: Type of Heaters, Design, Rating Tables, Design Details — Convector Baseboard Heating Systems: Typical Layouts, Special Layouts, Basic Data.

**Now on the press, for immediate delivery, is a brand new edition of TIME-SAVER STANDARDS — a gigantic volume of 888 pages containing all of the old edition *plus* 232 pages of new material never before published in book form.**

A grand total of 319 different TIME-SAVER STANDARDS . . . 888 pages . . . more than 1,000 illustrations, charts and diagrams.

The publication of the first edition of TIME-SAVER STANDARDS was an event of first magnitude in the architectural field. It has been acclaimed by thousands of architects the country over . . . is in current use as a standard text in many architectural schools throughout the country.

Now, in its enlarged form, and containing 232 additional pages of vital information, it becomes more than ever an indispensable source of essential architectural data on . . .

- Architectural Design
- Engineering Data
- Materials Technology
- Building Practice

Designed for the use and guidance of architects, engineers, specification writers and other building technicians this complete collection of these now famous authoritative monographs on technical aspects of construction cuts research time . . . offers proved-by-experience solutions to hundreds of structural problems.

## Well-Organized 12-page Index

This wealth of data is carefully organized and painstakingly presented. It is so thoroughly indexed that there are references and cross-references . . . occupying twelve pages of closely set print.

Experience shows that a single item in TIME-SAVER STANDARDS can well save hundreds of dollars in economy construction . . . save many hours of your valuable time.

## Special Pre-Publication Offer

Although this new, up-to-date edition of TIME-SAVER STANDARDS will be almost one third larger the regular price will be only $12.50.

But if you place your order now — before December 31, 1950 — you can take advantage of the pre-publication price of $10.00, a saving of $2.50 on the regular price. But, vastly more important, you'll be *sure* to get your copy. The first edition was a sell-out before publication.

Simply fill in the coupon below and . . .

**mail it TODAY.**

## Money-Saving Coupon

**BOOK DEPARTMENT, *Architectural Record***
**119 West 40th Street, New York 18, New York**

Enter my advance order for.....copies of the new, complete, 888-page edition of TIME-SAVER STANDARDS at the pre-publication price of $10.00* per copy. (Regular price $12.50.) I enclose payment of $.....

* Add 20 cents for New York City delivery; $10.20 in all.

*Name*.....

*Address*.....

*City*.....*Zone*.....*State*.....

**PRODUCTS**
(*Continued from page 232*)

a motor-operated generator set capable of welding studs up to and including ⅝ in. diam. Nelson Stud Welding Div., Morton Gregory Corp., Lorain, Ohio.

### *Redwood Color-Preservative*

*Liquid Raw-Hide Redwood Color-Preservative* is claimed to provide a long-life economical finish, and to require a minimum of maintenance cost. The treatment is said to seal the surface, repel the elements and to add a uniform natural color that is practically fade-proof. The product penetrates into the wood and is without sheen. A mildew resistant (Aryl Mercury Naphthenate) is included in the formula. Linseed Oil Products Co., 359 Del Monte St., Pasadena 3, Calif.

### *Heating For An Expandable School*

The *Dravo* heating-ventilating system used for the Elderton Joint School in Armstrong County, Penn., is claimed only to have cost about $860 for each room. Architects Scheeren & Rittenhouse were commissioned to plan a long-range project for a single-story structure containing 22 class rooms and a gymnasium-auditorium. The school board desired a plan that could be built in successive stages at very low cost.

The first unit to be built has four class rooms, a workshop, an industrial arts planning room and two washrooms. Immediate plans call for the addition of two more class rooms. For economy, the heating system was installed with larger capacity than was needed for the present structure. The two new class rooms can be joined to the system by extension of ductwork.

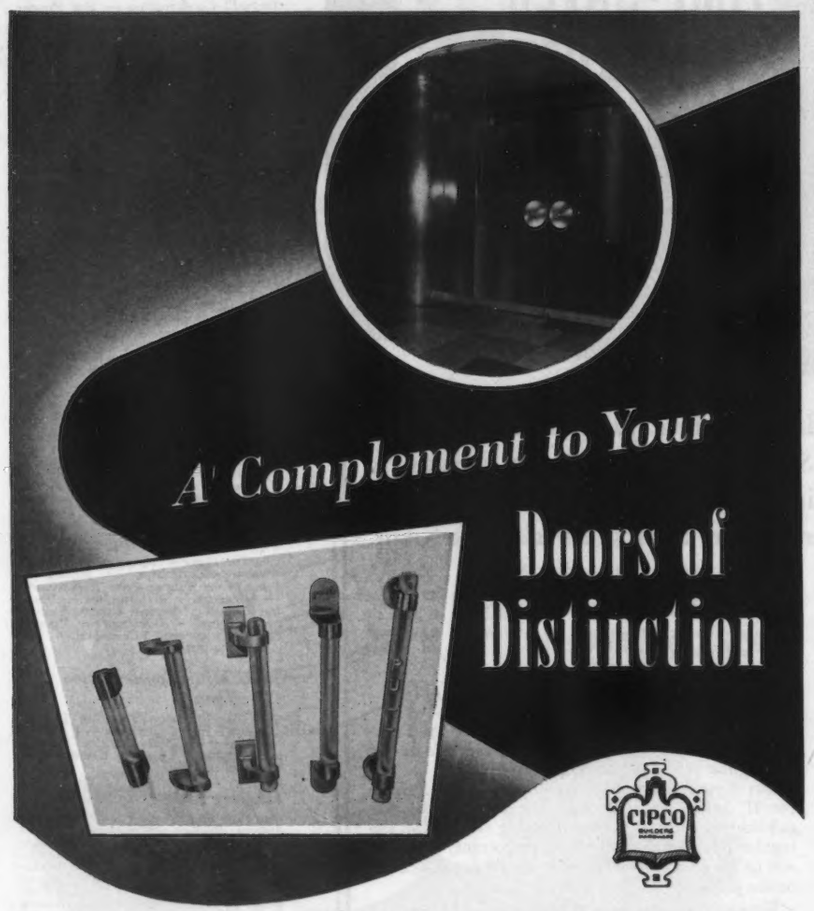


*First unit of expandable school is equipped with heater to serve next addition*

The heater is direct-fired by gas, and can be converted to use with fuel oil if needed. It has an output capacity of one million Btu per hour and 11,000 cu ft of air per minute. The unit is installed in a small furnace room off the main hall. It operates on air recirculated from class rooms plus fresh air drawn through an inlet in the roof. Air is collected in a sheet metal plenum chamber by a 3-hp fan. The air flows over economizer tubes which carry flue gases from the combustion chamber to the vent stack. Then the air sweeps the stainless steel combustion chamber and is discharged into ductwork leading to individual rooms.

A single, centrally located thermostat is used for control of heater and fan. Warm air input into each room is regulated by spring-acting dampers on the individual inlets. The system operates with the burner off for ventilation on warm days. Dravo Corp., Fifth and Liberty Aves., Pittsburgh 22, Penn.

(*Continued on page 236*)


**Consult our catalog when in need of conventional Builders Hardware.**

**Specify "Cipco Built" for your special designs. Your Architectural Hardware Consultant will be happy to work with you on either need.**

**Our latest catalog No. 49 can be obtained from your Architectural Hardware Consultant or write us—Dept. R.**

● *Manufacturers of Fine Hardware for 26 Years*

**CIPCO CORPORATION**
22nd and COLE STREET • ST. LOUIS 6, MISSOURI

P-S-S-T IT'S LOTS EASIER, QUICKER AND LESS EXPENSIVE TO INSTALL A

# JOSAM GREASE INTERCEPTOR

WITH THE PLUMBING AND DRAINAGE INSTITUTE SEAL OF APPROVAL!



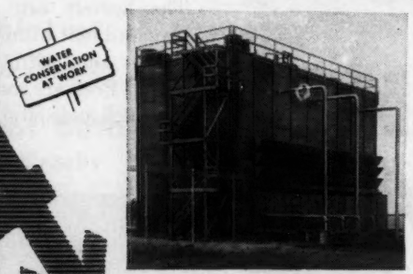

Seriously speaking — grease from your dishes, pots and pans will eventually clog your drain lines . . . cause trouble and expense. Waste water from your dishwater or sinks won't drain off to the sewer. Why take needless chances? The installation of Josam Grease Interceptors assures that grease will be removed from waste water before it gets into the drain lines . . . keeps them clean . . . eliminates costly delays and repair bills. Write for free copy of Manual B Today.



**Josam Manufacturing Co.**
302 Josam Building Cleveland 13, Ohio






**SAVE WATER!**
**SATISFY CLIENTS!**
**SPECIFY PRITCHARD!**

***Pritchard Cooling Towers are***

- Always manufactured of highest quality materials
- Adequately sized, thoroughly engineered
- Available in fireproof construction
- Adaptable to your specifications
- Available in any size for any capacity

**Write for FREE Bulletins**

EQUIPMENT DIVISION
**J.F. Pritchard & Co.**
Dept. No. 54 908 Grand Ave., Kansas City 6, Mo.

District Offices: Chicago • Houston • New York
Pittsburgh • Tulsa • St. Louis
Representatives in Principal Cities

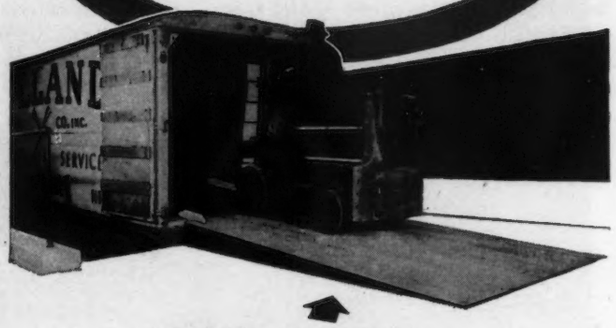


*New Efficiency Idea!*

**Rotary** (R)

# LEVA·DOCK

**SELF-LEVELING RAMP FOR LOADING DOCKS**



**Leva-Dock moves up and down with truck bed level**

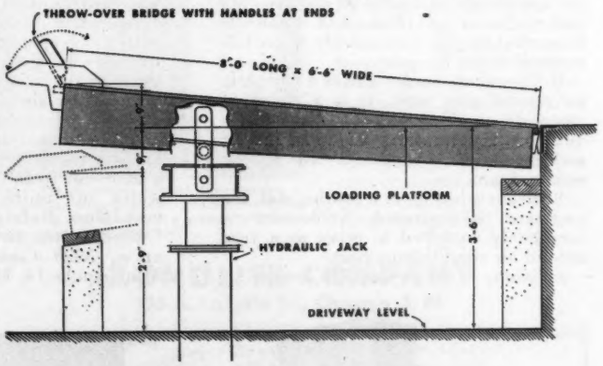
## Leva-Dock Permits Fast Direct Loading

Loading and unloading trucks and trailers presents a tough loading dock problem because (1) truck bed heights vary as much as 12 inches, and (2) the truck bed moves down or up as loading and unloading progresses. This problem has been made very serious by the use of platform and fork-lift trucks handling heavy unit loads.

The Leva-Dock makes it possible to load directly into or unload from all types of trucks or trailers . . . without using steel plates, bridge ramps, or other slow and frequently dangerous methods. Installation is simple and inexpensive.

***Write for architect's data file***

**Rotary Lift Co., 1111 Kentucky, Memphis 2, Tenn.**




**How the Leva-Dock Operates**

**The Leva-Dock is a hinged ramp, positioned by a hydraulic jack. Supporting arms and "throw-over" bridge connect ramp and truck bed. Platform automatically travels up or down as truck springs are relieved or compressed during loading and unloading.**

**PRODUCTS**
(*Continued from page 234*)

### *Heat Circulating Fireplaces*

The *Heatform* metal fireplace forms are available in two models for special mantel designs. Model S is a "Swedish" design, with both front and one end open to permit a view of the open fire from adjoining room areas. Model C is an "Indian design, with curved front and opening, and made for corner installation.

The units, made for enclosing with masonry walls, are equipped with warm and cold air outlets and inlets. The air chambers are claimed to capture heat before it is lost up the chimney and circulate it to all parts of the room, maintaining an even temperature throughout. The design of the throat and downdraft shelf and the location of the damper are said to prevent downdraft air currents from entering the throat. Grilles are available for the outlets, which are located at the top and sides of the standard models. If a panel front outlet grille is desired, a form can be provided with an opening through the front of the fireplace. Superior Fireplace Co., 1708 E. 15th St., Los Angeles 21, Calif.




*Metal fireplace form is designed with open front and end to serve two areas*

### *Tankless Water Heaters*

Two new tankless water heaters have been added to the *Bell & Grossett* line. The heaters can be furnished as a standard unit without the jacket, or as a deluxe unit with an insulated metal jacket. Both are constructed with a cast iron shell and spiral copper tube bundle.



*Deluxe model tankless water heater is compact, encased in insulated jacket*

The heaters are available in three sizes, Model numbers T-12, T-14 and T-16. Respective capacities with boiler water at 180 F are 210, 240 and 300 gals per hour. Bell & Grossett Co., Morton Grove, Ill.

(*Continued on page 238*)



RK?
OK!

To many architects who know air conditioning equipment, RK is just a quick way of saying Refrigerated Kooler-aire, the completely packaged air conditioning unit made by USAIRCO. And architects learn that an OK comes easily when RK is specified for the job!

Refrigerated Kooler-aire is a complete air conditioning unit. It is a balanced assembly combining cooling and dehumidifying units, refrigeration compressor and evaporative condenser all in one compact package.

With the addition of a heating coil, the packaged Refrigerated Kooler-aire is completely equipped to serve as a year around air conditioning unit.

Economy is the key of RK design . . . economy of space for complete air conditioning . . . economy of installation cost, with only three connections to make: to water, to drain, to electricity . . . economy of operation . . . economy of water usage with the evaporative condenser designed to re-use 95 of every 100 gallons pumped through the system. There are Refrigerated Kooler-aire units in sizes from 3 to 40 tons cooling capacity.

When compact, complete air conditioning is needed, architects find that RK is a short-cut to an OK. So why not wire or write for more information about USAIRCO Refrigerated Kooler-aire. United States Air Conditioning Corporation, 3320 Como Avenue Southeast, Minneapolis 14, Minn.



Refrigerated Kooler-aire . . . by U.S. AIRCO

Engineers and manufacturers of air conditioning, refrigeration, unit heaters, coils and ventilating equipment.

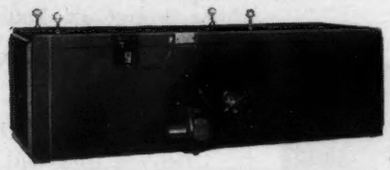
SUSPENSION UNIT . . .

# Oil or Gas!



WITH AN OUTSTANDING LINE OF *BOTH* OIL AND GAS-FIRED SUSPENSION TYPE HEATERS, J-C COVERS THE FIELD WITH THIS INCREASINGLY POPULAR TYPE OF FURNACE.

SEE OUR CATALOG IN SWEET'S



**J-C GAS-FIRED SUSPENSION UNITS,** fan or blower operated, have outputs of 68,000 to 172,000 BTU. Designed and built for performance and long life, the J-C gas fired suspension heater is ideal for heating, ventilating . . . for residential, commercial and industrial applications.

**J-C OIL-FIRED SUSPENSION UNITS** have outputs of 112,000 to 450,000 BTU. An efficient heater requiring less space *than any furnace* of its type and rating. Units feature greater heating efficiency with *less heating surface* . . . due to an exclusive design of ducts and baffles. Ease of installation is a feature—and ready access facilitates servicing.

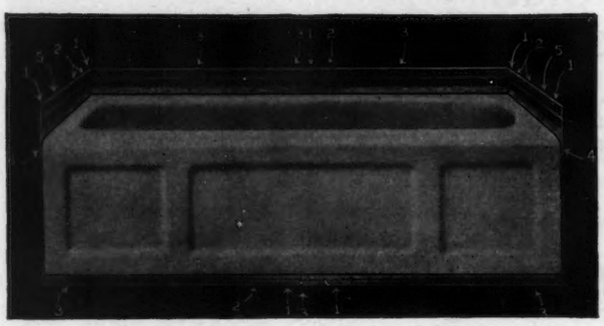
J-C . . . AMERICA'S LARGEST AND MOST COMPLETE WARM AIR HEATING LINE . . .

A PRODUCT OF
JACKSON & CHURCH COMPANY, SAGINAW, MICHIGAN
WORK WELL DONE SINCE 81

*For Trouble-Free Bath Tub Edges* } **Specify LUCKE**

## Leak-Proof Bath-Tub Hangers

**No Leaks • No Cracks • No Repair Expenses**



### A Necessity For All Housing Projects

There is no excuse for cracks or leaks or repair expense in good building. Leading architects specify LUCKE to overcome this problem. Lucke Hangers build tubs into wall.

SEE OUR CATALOG IN SWEET'S FILE

**Sold by Leading Plumbing Supply Houses**

MANUFACTURED BY

## W. B. LUCKE, Inc.

Wilmette Illinois

THE LUCKE LEAK PROOF TUB HANGER

# *NOW*—LIGHTWEIGHT ROOFS THAT COMBINE INSULATION AND STRUCTURAL STRENGTH



## ZONOLITE* CONCRETE CUTS COST... SAVES TIME

With one product—one application, Zonolite Concrete Aggregate combines both insulation and structural strength . . . achieving great savings in construction time, plus frequent economies in the use of structural steel.

More and more architects are specifying Zonolite concrete for roof deck construction—for this insulating concrete is permanent—incombustible—rotproof—lightweight—and monolithic all in one. It can be poured over wood forms, fiber or gypsum board forms, over paper backed wire mesh or metal lath forms. And it can be poured as permanent insulation fill over any existing roof.

For complete information concerning Zonolite Concrete Aggregates for roofs, send coupon below today.

...Another Roof Insulated with




Above: The ultramodern American Stove Company in St. Louis has a monolithically poured Zonolite concrete roof . . . specified by Harris Armstrong, architect, for its lightness, strength and fire protection.

## ZONOLITE COMPANY

135 S. LaSalle St., Chicago 3, Ill.

At Lumber or Building Material Dealers

ZONOLITE BRAND VERMICULITE AGGREGATES

Member of the Vermiculite Institute

Zonolite Company, Dept. AR-11-0
135 S. LaSalle St., Chicago 3, Ill.
Please send me at once a copy of your booklet "Zonolite Insulation and Lightweight Aggregates."

*Name*.....

*Address*.....

*City*.....*Zone*....*State*.....

**Zonolite is a registered trademark*

**PRODUCTS**
(*Continued from page 236*)

### *Water Sterilizer*

The *Sepco Ultra-Violet Water Sterilizer* has been developed for the purification of water which must be obtained from a well, spring or other unprotected source. The unit is automatic and electrically operated. It is claimed to require no attention, to use no chemicals and to add no taste or odor to the water. Ultra-violet radiation is said to effectively destroy all bacteria in even the most badly contaminated water, making it safe to drink.

The unit consists of a stainless steel tank 71 in. high by 12 in. diam. Inside are four specially constructed ultra-violet ray tubes extending vertically through the water. Patented baffles at various levels guide the incoming water close to the constantly glowing tubes. The sterilizer purifies water at the rate of 400 gals per hour. Where a larger supply of water may be needed, two or more units can be installed.

Installation is said to be quick and inexpensive. It is only necessary to connect the unit into the incoming water line ahead of any taps, then plug it into a standard electrical outlet. Water inlets and outlets have standard ¾ in. IPS connections. The unit operates on either 50 or 60 cycle, 110 or 115 volt a-c, and is equipped with a transformer to step up the voltage required for proper ultra-violet radiation. Special models can be supplied for use on other voltages or on d-c. Sepco Corp., Pottstown, Penn.


Charles of the Ritz, at B. Altman & Co., New York City



## When A "Face Lifting" Is In Order
## . . . *be sure to call on Bergen!*

IT isn't coincidence that Charles of the Ritz called on Bergen to craft and install their units in outstanding stores throughout the country. Both of us are pretty good "face-lifters" in our respective fields.

Among the units were those for Filene's in Boston, B. Altman & Co., New York (shown above), Kresge Dept. Store in Newark, Bamberger's, Newark, A & S in Brooklyn, Gimbel's, Milwaukee.

Those who know Bergen's woodwizardry (and they include the nation's top-notch architects and commercial organizations) also know that we are budget beautifiers par excellence. Figures are never more attractive than right after a Bergen treatment.

So, when a "face-lifting" is in order . . . and you want one that's "permanent" . . . be sure to call on Bergen. It's bound to be better!

*Write to Dept. A for our Portfolio of "Jobs Well Done". It's worth seeing.*

*Bergen-sure the success of your modernization program with*

BERGEN CABINET

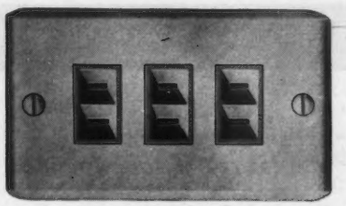
*Architectural woodwork that makes the designer's plan an enduring reality*

1552-56 BERGEN STREET, BROOKLYN, N. Y.

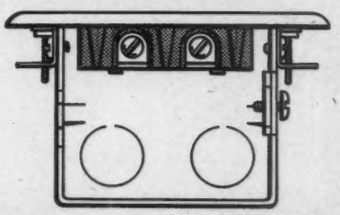
Phone: PResident 2-3121


### *Remote-Control Outlets*

Two new triple outlet and plate combinations have been added to the *General Electric* remote-control wiring line. They are made of molded, one-piece ivory plastic construction, and are said to take less box space than conventional convenience outlets. Available wiring space is larger.



*Plastic outlet is designed for remote-control wiring. Section shown below*



Unit No. RO-1 outlet has common feed and ground, and unit RO-2 has separate feed and common ground. The separate feed permits control of one or two outlets by switches while the remaining outlet or outlets remain live. Both units are rated for 15 amp, 125 volts; and 10 amp, 250 volts. The outlets are suitable for conventional wiring as well as the remote-control system. Construction Materials Dept., General Electric Co., Bridgeport 2, Conn.

(*Continued on page 240*)

# KOH-I-NOOR PRODUCTS

The RIGHT pencil for the RIGHT job

**62 *Years Ago*** KOH-I-NOOR made the FIRST Drawing Pencil . . . in 17 DEGREES, 6B to 9H. Since that time no other pencils have approached Koh-I-Noor's Record for Unfailing Uniform Performance.

**No Matter What Your Requirements . . .**

***you will find a KOH-I-NOOR Product to satisfy you completely***

**NOW Available...**

*No. 1600 KOH-I-NOOR Polycolor Pencils with IMPORTED Leads*

**in 67 colors**

DRAWING PENCILS
COPYING PENCILS
WRITING PENCILS
CHECKING PENCILS
COLORED PENCILS
OFFICE PENCILS
ART PENCILS
HOLDERS for LEADS
PENHOLDERS and ERASERS

KOH-I-NOOR

KOH-I-NOOR PENCIL COMPANY, INC., BLOOMSBURY, NEW JERSEY





# ELECTRIC Radiant Heat

## Means Low-Cost Safe Heat for This $250,000 California School

Floor-type installation of **Heatsum Cable** covers over 30,000 square feet in this new Sequoia Elementary School at Redding, California. **Heatsum Cable** operates at amazing low temperature, reduces fire hazard to a minimum, eliminates fuel storage and maintenance. Specify Roberson **Heatsum Cable** for your next heating job.

**Schools now using HEATSUM CABLE for Radiant Heating**

Union Elementary School
Union, Washington

Coulee Dam Elementary
Coulee Dam, Wash.

Redwood Elementary
Fort Dick, Calif.

McKinley School
Susanville, Calif.

Pacheo School
Redding, Calif.

Klamath Elementary
Klamath, Calif.

*Send for FREE Illustrated Folder AR25*

**L. N. ROBERSON CO.**

**1539 East 103rd St. Seattle 55, Wash.**



1ST IN AIR DISTRIBUTION PERFORMANCE .. IN VALUE PER DOLLAR

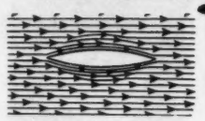
**S-2** Features vertical front louvers and horizontal rear louvers.



**L-2** Features horizontal front louvers and vertical rear louvers.

# Air Foil

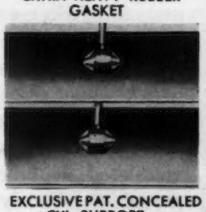
## Air-Conditioning Outlets



EXTRA WIDTH SOLID SECTION AIRFOIL LOUVER



EXTRA HEAVY RUBBER GASKET



EXCLUSIVE PAT. CONCEALED CYL. SUPPORT . . .

Wide louver surface gives unequalled, directional airflow control. Glass-smooth streamlining eliminates noise—turbulence. Cylinder support allows grille to be made to meet special requirements of any size or shape. Eliminates mullions, ugly butted construction.

**THESE PRIME FEATURES *GUARANTEE* PERFORMANCE UNOBTAINABLE WITH ANY OTHER GRILLE**

- EXTRA WIDE BEVELED BORDER
- SMOOTH—MITERED CORNERS
- COUNTER SUNK SCREW HOLES
- UNIFORM LOUVER TENSION
- ATTRACTIVE EXTRA-DURABLE FINISH

**HIGH QUALITY—SAVES MONEY**

Precision manufactured AIRFOIL GRILLES work *right* . . . from the first. Eliminate costly replacement or adjustment "Call-Back". Adjust easy . . . install easy. Assure lasting customer satisfaction.

FREE

Send for complete illustrated literature. Check box for special additional information.

☐ Air conditioning outlets
☐ Return air grilles and registers
☐ Volume controllers
☐ Perforated metal and ornamental grilles
☐ Door ventilators
☐ Special mode-to-order grilles

TITUS MANUFACTURING CORP., WATERLOO, IOWA
☐ Rush information on L-2 or S-2 catalog. ☐ Send complete literature on above checked items.

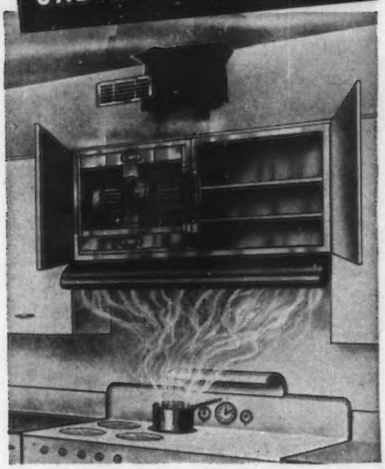
NAME_____

ADDRESS_____

CITY_____ STATE_____

# The most MODERN kitchen ventilating system

TRADE-WIND
SUPER CLIPPER
CABINET VENTILATOR



## Installs in cabinet over range... double inlets provide COMPLETE ventilation

Only the Super Clipper Kitchen Ventilating System—made by Trade-Wind—exhausts cooking fumes and heat from *both the stove and at the ceiling level.*

This newest development is installed in metal or wood cabinets directly over the stove.* The twin squirrel cage blowers produce 600 CFM—more than sufficient power to trap all cooking heat, grease and odors from the range top as well as through the second inlet at the ceiling. The motor is equipped with a 2-speed control. Two metal air filters are provided. Both a fold-under hood and stationary hood are available and both are optional.

No other kitchen ventilator can do the *complete* job that the Super Clipper accomplishes. And no other ventilator offers the architect, the builder and the home owner the versatility and efficiency which the Super Clipper provides for the modern kitchen.

*Several manufacturers now build metal cabinets especially for the Super Clipper. Wood cabinets can also be built on the job. Trade-Wind does not provide the cabinet.

*Write today for complete information.*

TRADE-WIND MOTORFANS, INC.

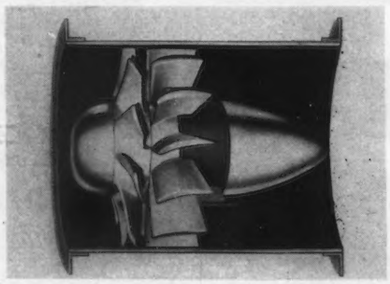
5707 S. Main St., Los Angeles 37, Calif


## Architectural Engineering

**PRODUCTS**
*(Continued from page 238)*

### *Fans For Ductwork*

Two new *Robbins & Myers* vaneaxial type, medium pressure propeller fans, designed for ductwork applications, are said to permit series or straight-through connections for all air-moving requirements. Type VCDD direct-driven units are constructed with the motor inside the airstream for non-hazardous applications. Type VCS belt-driven units are designed for installations in which corrosive or inflammable fumes, dusts or vapors must be considered.



*Cross section of new medium pressure propeller fan designed for use in ductwork*

Both type units operate on a low hp input and have airfoil section propellers. Guide vanes are planned to prevent swirling and provide a smooth axial flow of air. The vane is mounted independent of the heavy gage steel drum. Spun aluminum nose and tail cones serve to streamline the air flow. The units are equipped with open-ventilated, ball bearing motors. They are said to be easily installed in standard 20 and 24 in. diam duct systems. Robbins & Myers, Inc., Springfield 99, Ohio.

### *Rolling Door Hardware*

The *Washington Line Rolling Door Track and Hanger* feature simplicity of construction and installation. The unit is designed for all types of interior doors. Tracks are of steel construction. Hangers have ball-bearing or nylon wheels for

*(Continued on page 242)*


NOW
*Get ready for Winter!*

INSTALL
TODD BURNERS
—GAS OR OIL

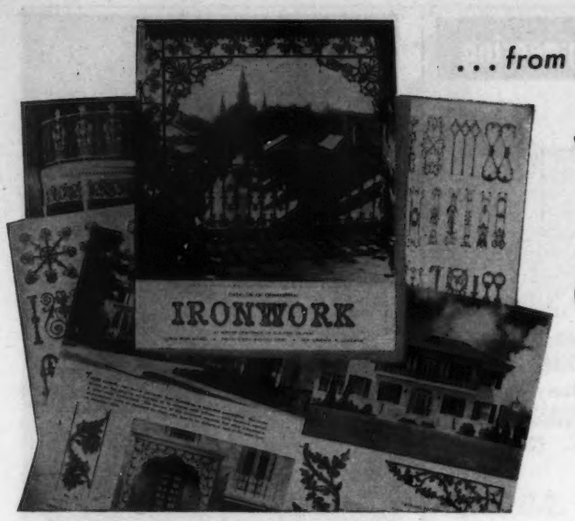
**Now's the time to prepare for cold weather! Cut your power costs . . . modernization saves up to 10% on your fuel and maintenance bills. Let skilled Todd specialists engineer your boiler plant for maximum economy — either by modernizing obsolete equipment or providing a new and efficient installation.**

*Oil Burners*
*Gas Burners*
*Combination Oil and Gas Burners*




COMBUSTION EQUIPMENT DIVISION
TODD SHIPYARDS CORPORATION
81-16 45th Ave., Elmhurst, Queens, N. Y.
See Your Classified Telephone Book

NEW YORK • BROOKLYN • ROCHESTER • BUFFALO • HOBOKEN • NEWARK • PHILADELPHIA HARRISBURG • YORK • PITTSBURGH • CHICAGO RALEIGH • CHARLESTON, S. C. • BOSTON SPRINGFIELD, MASS. • BALTIMORE • WASHINGTON • RICHMOND, VA. • ATLANTA • BIRMINGHAM • CLEVELAND • DETROIT • GRAND RAPIDS TAMPA • GALVESTON • SAN ANTONIO • DALLAS HOUSTON • TULSA • MOBILE • NEW ORLEANS SHREVEPORT • DENVER • SALT LAKE CITY • LOS ANGELES • SAN FRANCISCO • SEATTLE • MONTREAL • TORONTO • BARRANQUILLA • BUENOS AIRES • LONDON




*. . . from the beautiful, original lacework of historic OLD NEW ORLEANS*

**WE PRESENT A COMPLETE PICTORIAL CATALOG OF**

# ORNAMENTAL CAST IRONWORK

Every known pattern to be found among historic Vieux Carre (New Orleans) buildings and ante-bellum homes are faithfully reproduced by LORIO master craftsmen... cast in the finest quality iron obtainable.

LORIO IRONWORK installations can be seen on homes, hospitals, university buildings, doctors' clinics and other types of buildings... in the very finest of modern or traditional architectural taste.

WE OFFER A COMPLETE SERVICE IN PRODUCING CUSTOM-MADE PATTERNS FROM YOUR OWN DESIGNS . . . OR SPECIAL CASTINGS OF ANY KIND.

**Send for this handsome NEW 48-PAGE CATALOG**

Available, for the asking, to architects and builders who are interested in—

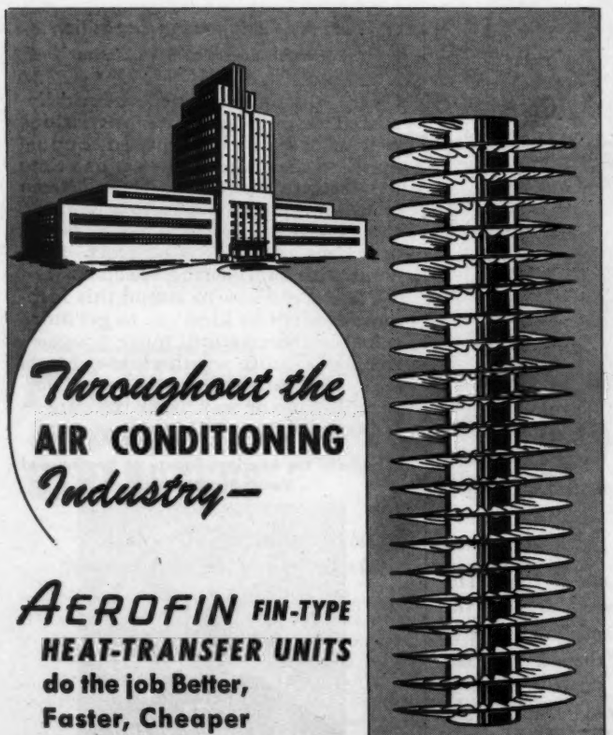
- AUTHENTIC HISTORIC PATTERNS
- CREATIVE REPRODUCTIONS OF NEW DESIGNS
- HIGHEST QUALITY OF MATERIALS AND WORKMANSHIP
- EXCELLENCE IN ARCHITECTURAL TASTE

All of the famous New Orleans designs and many new ones are illustrated in this 1950 LORIO Catalog. And beautiful, large, photographic reproductions of various installations throughout the United States are shown.

## LORIO IRON WORKS

**738-756 South Gayoso Street • New Orleans 19, Louisiana**

---

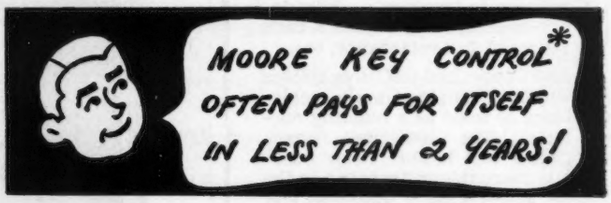


*Throughout the* **AIR CONDITIONING** *Industry—*

**AEROFIN FIN-TYPE HEAT-TRANSFER UNITS do the job Better, Faster, Cheaper**

AEROFIN CORPORATION
410 South Geddes St., Syracuse 1, N. Y.

---




You owe it to your client to investigate this modern system of key control. It saves money year in and year out by eliminating expensive repairs and replacement of locks and keys. What's more, it guarantees security, convenience and privacy. No wonder more architects every year now specify Moore Key Control for use throughout schools, institutions, hospitals, hotels... in all factories and buildings where keys are used.



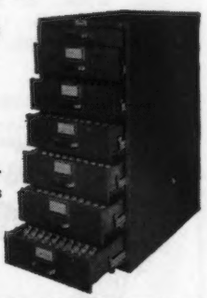


*COMPLETE SYSTEMS FOR EVERY NEED*

*Wall cabinets of every size from $27.45 up*

*Drawer file cabinets*

*Section of a typical control panel*



*TELKEE
*TRADE MARKS ®

Mail Coupon today for Free Booklet

P. O. MOORE, INC., Dept. A-2
300 Fourth Ave., New York 10, N. Y.

Please send me special architect's manual for my A.I.A. file on MOORE KEY CONTROL.

*Name*.....

*Address*.....

*City, State*.....

To Control




Specify Copperized

CZC

(CHROMATED ZINC CHLORIDE)

The three common causes of wood failure are almost eliminated when you specify pressure treatment with Du Pont Copperized CZC. Because this salt-type wood preservative makes wood unappetizing to termites . . . kills decay-causing fungi . . . gives a high degree of fire retardance, too.

And Copperized CZC does all this without changing the characteristics of wood as a building material. The treatment leaves timber and lumber clean, odorless, paintable and safe to handle.

So, where wood is indicated and permanence demanded . . . be on the safe side . . . specify pressure treatment with Du Pont Copperized CZC.

Full technical details on Copperized CZC available for the asking. Write: E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Dept., Wilmington 98, Delaware.




DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY


## Architectural Engineering

### PRODUCTS

(*Continued from page 240*)

noiseless operation. Doors are supported from the top with no floor tracks. No detail mill work is said to be necessary for installation. Hangers may be either side or top mounted. Washington Steel Products, Inc., 1420 W. Goler St., Tacoma, Wash.

***Window Balancer***

Made of spring steel, *Kwik-Out* window balancers provide a simple means of maintaining a constant pressure between window and jamb. This friction is ample to hold the window in any position desired, yet allows the window to be moved up and down easily. The need for sash cords and weights, or for similar equipment is eliminated. The devices also permit quick removal or insertion of



*Spring steel window balancers permit easy removal, replace cords and weights*

windows without the use of tools. The window is merely pressed towards the side having the units and lifted clear of the jamb. To reinsert, the side with the units is inserted first, slight pressure is applied, and the other side slipped into the groove. When in place, the firm grip provided is claimed to eliminate the possibility of rattles or chatter. RCS Tool Sales Corp., Joliet, Ill.

(*Continued on page 244*)




On to Philadelphia
. . . for NEW IDEAS!

Newest advances in HEATING, VENTILATING, and AIR CONDITIONING . . . latest trends and practices in providing installations for commercial and public buildings, industrial plants, institutions, and homes . . . a wealth of stimulating, practical ideas . . . all are in store for architects, consulting engineers, and contractors at the —

10th Air Conditioning Exposition
International Heating & Ventilating Exposition

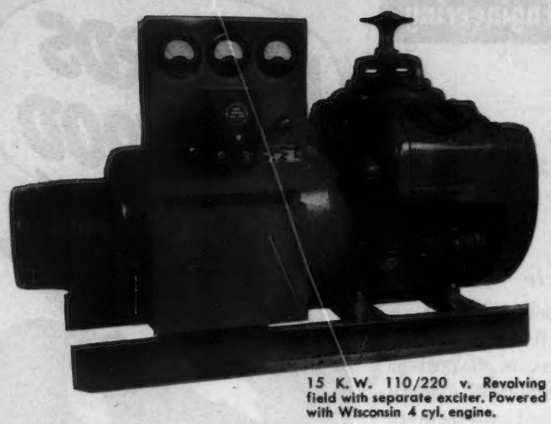
Over 300 informative, technically-staffed exhibits and demonstrations will afford you unequalled opportunity to see and compare at one time hundreds of new and improved items from complete units to maintenance supplies — to discuss your plans, problems and requirements first-hand with engineering specialists.

Plan ahead *now* to attend this foremost event of its kind . . . to get more valuable information, more progressive ideas, more worthwhile contacts than you can acquire in any comparable time or way. Note the date — January 22–26, 1951.

Auspices of the American Society of Heating and Ventilating Engineers




Management International Exposition Company



15 K.W. 110/220 v. Revolving field with separate exciter. Powered with Wisconsin 4 cyl. engine.

## AC Stand-By Power

**Provide a KATOLIGHT light and power plant to provide current in case of power failure.**

Since 1928, KATOLIGHT AC Generators have been sent to all parts of the world. The capacities range from 500–25,000 watts on complete engine-driven plants. Alternators are available from 500 watts to 300 kw. Nationally known engines, such as Chrysler, LeRoy, Hercules, Briggs-Stratton, and Wisconsin are used to powerize.

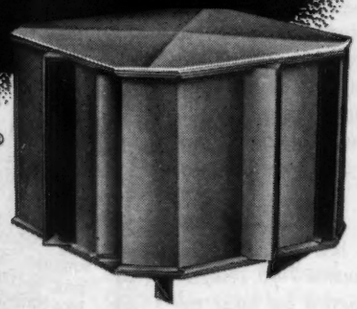
Mechanical and electrical design is worked out bearing the desire to have generating plants that can be serviced by local electricians or garage mechanics.

Write today for complete specifications.

**Kato Engineering Co. • Mankato, Minnesota**

---

**NOW...** ADEQUATE LOW COST VENTILATION



## AGITAIR® WIND-ACTUATED EXHAUSTERS

*No Power Costs . . . No Maintenance*
*Perform Efficiently Regardless of Wind Direction*

Now . . . with Agitair Exhausters, a hole in the roof becomes a complete ventilating system. Yes . . . every gentle breeze can be put to work to provide positive, adequate ventilation. Agitair Wind-Actuated Exhausters draw hot, stale air, steam or odors from the area being ventilated . . . regardless of wind direction or velocity. They prevent back-drafting, and are completely weatherproof under all conditions.

*Write for Bulletin EX 103-2*

**AIR DEVICES, Inc.**
17 East 42nd St. • New York 17, N. Y.
Air Diffusers • Air Filters • Roof Exhausters

---

There are a lot of good cars



but there is only one **CADILLAC**

There are a lot of good violins . . .



but there is only one **STRADIVARIUS**

There are a lot of good drawing pencils

but there is only one **CASTELL**

*with the Genuine*
*IMPORTED*
*CASTELL*
*lead*




*So smooth, so free-flowing—it's an inspiration for genius. Yes, it costs a few pennies more, but it lasts so much longer than ordinary pencils—it's more economical in the long run. 18 exact tones of black—7B to 9H.*

*NOTE: CASTELL does away with the irritation of point breaking. It takes needlepoint sharpening without snapping. Order from your Dealer today—and don't allow yourself to be talked into a substitute.*

**A.W. FABER-CASTELL**
PENCIL COMPANY INC., NEWARK 4, N.J.

# Hunter
PACKAGE
ATTIC FANS



Cool comfort at low cost!

■ Low cost home cooling is here! The Hunter Package Fan is a compact, powerful ventilating fan that is easily installed in any attic to pull in fresh, cool breezes and push out stale, humid air. Thousands are now in use throughout the nation.

Installation of the Hunter Package Fan is simple and inexpensive. Fan, motor and suction box are all in one unit that requires only a ceiling opening in hallway and 18″ clearance in attic. Fan rests on attic floor; shutter fastens to ceiling opening. No "extras" to buy or build.

**HUNTER PACKAGE ATTIC FANS** are available in four models, ranging from 4750 CFM to 9500 CFM, to fit any home size and climate. Quiet, powerful and dependable. Manufactured by Hunter, exclusive fan makers since 1886.



**MAIL FOR BOOKLET**
Hunter Fan and Ventilating Company
396 South Front St., Memphis, Tenn.
*Send free copy of "How to Cool for Comfort" to:*

*Name*.....
*Address*.....
*City & State*.....


## Architectural Engineering

### PRODUCTS
(*Continued from page 242*)

### *Interlock Receptacle*

The *Panellit* interlock receptacle is designed with safety features for the use of cord extensions in hazardous locations. The unit incorporates a safety cam lever which locks cord caps securely in the receptacle. This makes it impossible to remove the cord while the current is on. A flip of the lever breaks the circuit and allows plugs to be removed from the sockets. Standard flush type single or duplex receptacles, fitting any conventional cord cap, are used. Units are available in capacities up to 20 amperes. Panellit, Inc., 7218 No. Clark St., Chicago 26, Ill.



*Cam lever in center of safety receptacle prevents removal of cords with current on*

### *Mixing Valve*

A new automatic hot water mixing valve, called the *Symmons T-70 Tempering Controller*, is designed for large capacity and to give exact hot water temperature required, regardless of heater temperature variations. It also automatically compensates for normal pressure fluctuations. Temperature settings are calibrated from 90 to 180 degrees.

The unit is operated by a thermostatic solid fill bellows mounted out of the water in a protected chamber subject only to atmosphere. To this thermal element is attached 72 running in. of liquid

(*Continued on page 246*)





# FIRZITE
—tames wild grain and checking on fir plywood




Wild grain and checking are just about the only troubles in using fir plywood. The one sure way to insure a perfect finish is to start with FIRZITE. It tight-seals the pores, virtually prevents grain rise and checking, readies the surface satin-smooth for paint, stain, enamel. (For blond, pickled, wiped or tinted effects on any wood, use White Firzite.)

# SATINLAC
—newer than shellac or varnish . . . and better!




For "natural wood" finishes on panelling, there's nothing like Satinlac. Brings out and preserves the natural grain and color beauty of any plywood or solid wood. Avoids that "built-up" look yet gives full protection; and will not turn yellow or darken with age. "Water-white", easy to brush or spray, dries ready for next coat in 3 or 4 hours.

*Write for suggested specifications*
UNITED STATES PLYWOOD CORPORATION
Dept. 56, 55 W. 44th St., New York 18

# QUALITY MAIL CHUTES • • FOR • • 67 YEARS

*Catalog in Sweets*

ESTABLISHED 1883

Cutler Mail Chute Co

ROCHESTER 7, N. Y.






# LONE STAR CEMENTS

**COVER EVERY CONSTRUCTION NEED**

**LONE STAR PORTLAND CEMENT**
for concrete of outstanding quality in all types of construction

**"INCOR" 24-HOUR CEMENT**
America's FIRST high early strength Portland Cement—saves time, cuts costs

**LONE STAR MASONRY CEMENT**
The modern masonry cement, for really great job performance

*Reg. U. S. Pat. Off.

**LONE STAR CEMENT CORPORATION**

Offices: Albany • Bethlehem, Pa. • Birmingham • Boston • Chicago • Dallas Houston • Indianapolis • Jackson, Miss. • Kansas City, Mo. • New Orleans New York • Norfolk • Philadelphia • St. Louis • Washington, D. C.



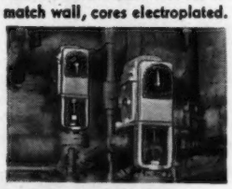



IN THIS COMPLETELY AIR-CONDITIONED BUILDING..

# BARBER-COLMAN



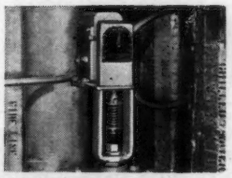
Uni-flo MA Grilles in typical interior. Grill frames finished to match wall, cores electroplated.



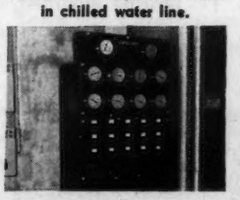
*Electric* Motor-Operated steam valves.



Return air grilles in corridor doors — Uni-flo Sight-tite.



Electric Motor-Operated Valve in chilled water line.



One of two fan unit control panels.

**ONE SOURCE FOR BOTH...**

**TEMPERATURE CONTROLS**
*Maximum Performance, Minimum Maintenance*

**AND Uni-flo**

**AIR DISTRIBUTION PRODUCTS**
*Tops in Appearance as well as Performance*

In the planning and construction of this building, the architect, engineer, and contractors were able to work with ONE source — Barber-Colman Company — for ALL of the automatic controls AND all of the sidewall and ceiling outlets in the entire building. Keep this name in mind for *your* next project . . .

**BARBER-COLMAN COMPANY**
1232 ROCK ST., ROCKFORD, ILLINOIS

*The New*
**ALLSTATE INSURANCE COMPANY**
*Building*
**HOME OFFICE • CHICAGO, ILLINOIS**

ARCHITECT — Carr and Wright, Inc., Chicago, Illinois
CONSULTING ENGINEER — Robert E. Hattis, Chicago, Illinois
HEATING CONTRACTOR — Gallaher and Speck, Inc., Chicago, Illinois
VENTILATING CONTRACTOR — Acord Ventilating Co., Chicago, Illinois

**PRODUCTS**
(*Continued from page 244*)

fill copper tubing located in the mixing chamber. Temperature changes in the mixing chamber produce hydraulic action to operate the valve. The Symmons Engineering Co., 791 Tremont St., Boston, Mass.

### *Brick Conveyor*

The *Brik-Toter* conveyor is designed to eliminate carrying materials such as brick up ladders in construction work. The device is 20 ft long, 14½ in. wide and weighs 385 lbs. It is built with bridge type trussed construction and torque frame. The conveyor belt is 12 in. wide vulcanized rubber, driven by an enclosed ½ H.P. gear motor. A gasoline motor drive is available. The fixed speed of the belt is 60 ft per minute.



*Conveyor simplifies and speeds transportation of brick to second floor levels*

The bed of the conveyor is constructed with 16 ga. 2 in. diam tubular rolls, ball bearing mounted, and spaced on 12 in. centers. It is assembled in heavy gage, 3 by 1 in. pressed steel channel frames. The load capacity of the unit is about 1200 lbs, evenly distributed. It also may be used to save labor in transporting masonry, short lengths of lumber and other materials. Mar-Rail Conveyor Co., 560 York Ave., Pawtucket, R. I.




**BETTER INDUSTRIAL ELEVATORS**

Give your clients the most value, the most advantages by specifying Globe Industrial Elevators for plants and warehouses.

GLOBE ENGINEERED EQUIPMENT

Low initial cost, simplified installation. Low maintenance, oil hydraulic operation. Advanced safety features. Hold-down or automatic push-button control. Rugged construction for heavy loads. No penthouse or load bearing walls required. Countless superior features assure client satisfaction. Mail coupon for specifications and complete details, now.

Estimates or suggestions furnished on any industrial lifting problem by Globe's Lifting Engineers. No obligation.

**MAIL COUPON TODAY**




GLOBE HOIST COMPANY
1000 E. Mermaid Lane
Philadelphia 18, Pa.

Please send Bulletin A11-0 showing illustrations, specifications on OilLift Freight Elevators, Sidewalk Elevators, Lifting Platforms and Ramps.

Company.....

Name.....Title.....

Street.....City.....State.....

**GLOBE HOIST COMPANY**
Des Moines 6, Iowa  Philadelphia 18, Pa.



*for* **FRENCH DOORS**

**CASEMENT WINDOWS**

**DUTCH DOORS**

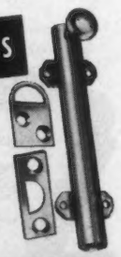
**STALL DOORS**

**ADAMS-RITE patented bolts are stronger, easier to install, keep their original finish**

Adams-Rite, the originators of the exclusive extruded design in Surface, Slide and Cremone Bolts, is still the only source for all styles! This patented construction with concealed guides eliminates all unsightly straps and scratching. Solid brass throughout. Four screws to each bolt insure rigid strength. Installation is easy and error proof and adjustments are made on the job without taking the bolt apart. Spring tension gives uniform pressure at all points.

**RITE SURFACE BOLTS**

All 3 widths of rods—⅜", ½" and ⅝"—have the extruded design. Lengths to 48". Harmonizes with any architectural design. Mortise and rim strikes furnished. 10 standard finishes.



**RITE SLIDE BOLTS**

Extruded design in 2 sizes—2½" x ½" and 3" x ⅝". Ideal for stall and Dutch doors and for use in place of mortise and gem bolts. Surface, rim and mortise strikes furnished. 10 standard finishes.



**RITE CREMONE BOLTS**

New narrow, modern design enhances French windows and doors. Especially suited to very narrow wood or metal stiles. Rods, all with extruded design, in 3 widths—⅜", ½" and ⅝". Reversible as to hand. One or 2 handles available. Thumb button deadlock optional. Mortise, rim, angle and surface strikes furnished. 7 standard finishes.



50TH ANNIVERSARY 1900—1950

ADAMS-RITE MANUFACTURING CO.
540 WEST CHEVY CHASE DRIVE, GLENDALE 4, CALIFORNIA, U. S. A.

SINCE 1888

# MATOT

## DUMB WAITERS

ELECTRIC AND HAND OPERATED

FOR

HOTELS • RESTAURANTS
INSTITUTIONS • CLUBS




*OR WRITE TO . . .*

**D. A. MATOT, INC.**

1533 W. ALTGELD STREET • CHICAGO 14, ILLINOIS




# NEW

**RATING: Pull Chain-250W 250V; Keyless-660W 250V. Convenience Outlet 15A-125V or 10A-250V.**

## PAULDING WALL BRACKET FIXTURE . . WITH CONVENIENCE OUTLET

**PAULDING NO. 1805 MOLDED PORCELAIN WALL BRACKET UNIT WITH CONVENIENCE OUTLET.**

Completely wired and equipped with opaque glass shade and cadmium-plated mounting strap for 3¼" and 4" outlet box or Gem X Box. Base: 5½" x 5". Sockets take two 60W bulbs. Glass Shade 11¼" long, 3¾" wide, 3¼" high.

**PAULDING**

PORCELAIN PRODUCTS

are the best money can buy . . . regardless of price. The quality of interior parts and working mechanisms is proved by the fact that they stay working on the job long after others fail.

THE NEW PAULDING UNIT shown here meets a great and growing demand from Wholesalers, Contractors and Retailers everywhere. No. 1805 is ideal for residential, commercial or industrial installation in bathrooms, lavatories, over kitchen sinks, wash tubs, work benches, counters, tables, etc. Recommended for use wherever directed light and an extra outlet are required from the same box.

PAULDING
OFFERS 4 TYPES
of the fixture shown.

1805 — Pull Chain with Convenience Outlet.

1806 — Keyless with Convenience Outlet.

1807 — Pull Chain, No Outlet.

1808 — Keyless, No Outlet.

805 — Pull Chain Replacement Socket.

**Quality construction throughout. Approved by Underwriters Laboratories. Sold only through recognized channels.**

**Send for Catalog and see the entire Paulding line of wiring devices and Kaolite fixtures.**

UNSURPASSED QUALITY . . . AT A COMPETITIVE PRICE

**JOHN I. PAULDING, INC.**

NEW BEDFORD, MASSACHUSETTS

QUALITY SERVICE SATISFACTION

**A school-house that moves where wanted**




OF COURSE, HALSEY TAYLORS WERE CHOSEN

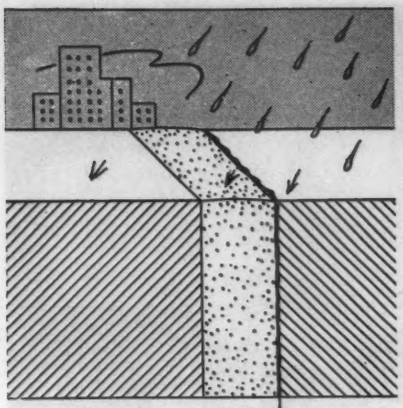


To meet Seattle's problem of providing adequate, primary schoolhousing on a large scale but for a temporary period, a new unit—the transportable classroom—was developed. Yet the pupils' comfort and health were not overlooked. Halsey Taylor Drinking Fountains assure hygienic, contamination-proof advantages. Write for latest literature

The Halsey W. Taylor Co., Warren, O.

**HALSEY TAYLOR Fountains**

AS-7



**To Prevent Leaks in Masonry Joints–**

**specify**

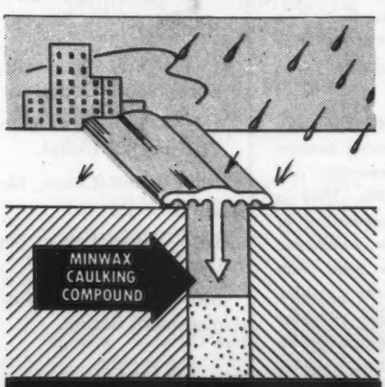
TRADE MINWAX MARK

**WEATHERCAP**

**set in**

**MINWAX CAULKING COMPOUND**

**• Good for the life of the building. For free sample and specification data, mail coupon.**




**SEND FOR YOUR SAMPLE**

**Minwax Company, Inc.**
**11 W. 42nd St., New York 18, N. Y.**

Please send me free sample of Weathercap with descriptive folder and specification data.

Name.....

Address.....

City.....

State.....

AR-11-50


## Architectural Engineering

### LITERATURE

(*Continued from page 163*)

Among the items included are: performance charts, engineering data sheets, dimension drawings, installation instructions and price lists. Other sheets cover accessories available for the blowers. 42 pp., illus. The Moore Co., 800 S. Missouri, Marceline, Mo.

### *Daylighting for Schools*

*Better Light For Our Children.* Booklet offers simplified discussion on light-directing glass blocks used in daylighting classrooms. The first section is concerned with glare and contrasts in lighting, and its effect on children's health and posture. The remainder of the booklet treats on methods for daylight control, including the system combining glass blocks and clear glass windows. 24 pp., illus. American Structural Products Co., Ohio Bldg., Toledo, Ohio.*

### *Aluminum Flush Doors*

*All-Aluminum Kawneer Flush Door.* Folder presents a series of fluted aluminum doors. Features and construction details of the doors are given. Notes and sketches describe the hardware and glass or louver panels available. Specifications and a table of sizes for single and double doors are included also. 4 pp., illus. The Kawneer Co., Niles, Mich.*

### *Automatic Dish Dispensers*

*Lowerator Automatic Storage and Dispensing Units for China, Glasses, Trays.* Booklet describes features and operation of the spring-operated, under-counter dispensers. Sketches, specifications and details are given for the various types of storage units available. Photographs are included of typical installations in cafeterias, restaurants, etc. 28 pp., illus. American Machine & Foundry Co., 485 Fifth Ave., New York 17, N. Y.

### *Registers and Grilles*

*Independent Registers and Grilles (Catalog No. 50).* Covers a line of grilles,

(*Continued on page 250*)




**AIR YOUR FILTER PROBLEMS HERE**

**Farr Company Engineers offer complete laboratory services to bring you better air filtration**

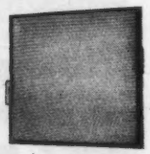
Your air conditioning system deserves the best in air filters and standard FAR-AIR* filters will meet most of your requirements. However, if you are faced with unusual dust conditions, Farr Company's modern, well-equipped laboratory will help you select the proper type of filter to meet your particular problem.

These laboratory facilities are also used to constantly improve the FAR-AIR line to assure you of getting the very best air filtration when you install FAR-AIR products.

Send in your air filtering problem today or write for information on the complete FAR-AIR line.

**Typical users of FAR-AIR equipment include:**

**Thomas A. Edison Co.**
**W. K. Kellogg Co.**
**Lever Bros. Co.**
**Pillsbury Mills, Inc.**
**Swift & Co.**



FAR-AIR FILTERS
"Better by Farr"

*Trade Mark Reg.

**FARR COMPANY**
*Manufacturing Engineers*
Los Angeles • Chicago • New York
Mf'd under license by
Control Equipment Co., Ltd., Montreal

# FITZGIBBONS

*"The best in steel boiler heat"*




A. S. M. E. code constructed

Hydrostatically tested

Hartford insurance inspected

S. B. I. code rated

Residential and commercial steel boilers in sizes from the small home to the largest structure.

*Fitzgibbons Boiler Company, Inc.* 101 PARK AVE. NEW YORK 17, N. Y.

*Need a Chimney?* *Specify*

# VAN-PACKER

**PACKAGED CHIMNEY**

***VAN-PACKER gives your client a better chimney at lower cost.***

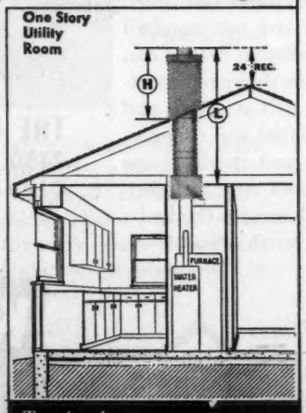
1. Costs 20% to 50% less than brick.
2. Proven better draft...Quicker starting draft.
3. Built to last as long as the house.

U. L. tested and approved for all fuels. FHA acceptance.

***VAN-PACKER gives you freedom of design.***

1. Hang chimney from ceiling or floor and use valuable space underneath.
2. Locate heating unit independent of fireplace flue.

**Write today for full descriptive literature on chimney and other types of installations.**




Typical VAN PACKER CHIMNEY INSTALLATION

## VAN-PACKER CORPORATION

Rm. 1749, 126 West Adams St.
Chicago 3, Illinois

# ACCEPTED

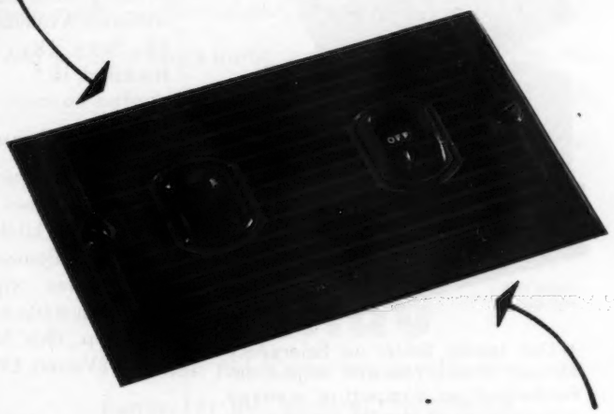
## PASS & SEYMOUR

*as a good investment for dependable operation*

Metropolitan Life Insurance Company builds the largest housing project in the world as a secure, long term investment for their funds. They know their business.

They chose P & S devices for "Parkchester," "Peter Cooper Village," "Riverton," and "Stuyvesant Town."

P & S devices in these projects mean space saving, and dependable service without maintenance or replacement costs for years.



## P&S-Despard devices are convenient

A switch, a pilot light, and a convenience outlet, or any combination of two or three devices of your own choosing can be assembled into one gang —right on the job — when you specify P & S — Despard. Sixty years of experience in the manufacture of precision-built devices are back of all P & S products. They are Underwriters' approved . . . meet or exceed all Federal and REA specifications. Wise architects and specifiers know that "Interchangeable" is another word for time-tested "Despard," and both mean satisfied clients. Write today for details on the complete Despard line.

## PASS & SEYMOUR, Inc.

**12 Boyd Ave., Syracuse 9, N. Y.**

*Maker of the famous P&S-Despard Line*

*Here's help in Specifying*

# EMERGENCY ELECTRIC POWER!




Model 10EL
10,000 watts

● Our special folder on Emergency Electric Plants contains helpful information on computing wattage requirements of standby systems, engineering and installation details. Complete specifications of Onan Emergency Electric Plants are included.

We also offer free engineering service on problems involving standby electricity. Write us on any question. There is no fee or obligation.

**Onan Builds Standby Plants for any Type of Building**
Many sizes—1,000 to 35,000 watts, for hospitals, radio stations, hatcheries, schools, industrial plants and many others.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

Onan PRODUCTS *Send coupon today*

**D. W. ONAN & SONS INC.**
5146 Royalston Ave., Minneapolis 5, Minn.

Please send Standby Folder.

NAME_____

ADDRESS_____

CITY_____ STATE_____

## Architectural Engineering

**LITERATURE**
(*Continued from page 248*)

cold air faces and registers. Each type is presented with descriptive notes, selection tables, weights, open areas, sizes and prices. The line includes wall, ceiling and floor outlets for heating or cooling. 36 pp., illus. The Independent Register Co., 3747 E. 93rd St., Cleveland 5, Ohio.

### *Grille Selector Slide Rule*

*Uni-Flo Grille and Register Selector.* Slide rule designed to provide rapid sizing of Uni-Flo ventilating and air conditioning grilles. Grille size is based on noise level, air volume, throw and ceiling height. A table of maximum allowable noise levels for different installations is printed on rule face. The device is made of heavy cardboard, with plastic covered windows. Available at no cost from Uni-Flo Sales Div., Barber-Colman Co., Rockford, Ill.*

### *Kitchen Planning*

*Kitchen Planning On A Small Budget.* Booklet discusses planning and remodeling of small kitchens. The Youngstown line of equipment is presented. The booklet was originally prepared for home economists and homemaking teachers. 20 pp., illus. Mullins Manufacturing Corp., Warren, Ohio.

### *Aluminum Windows and Doors*

*Tecler Aluminum Windows and Doors.* Gives window frame and bar standard types and sizes, installation details and specifications. A section shows representative installations as well as details and specifications. Residential and commercial doors, hardware and specifications for aluminum windows are included. 12 pp., illus. Tecler Aluminum Products, 625 Yale Avenue North, Seattle 9, Wash.

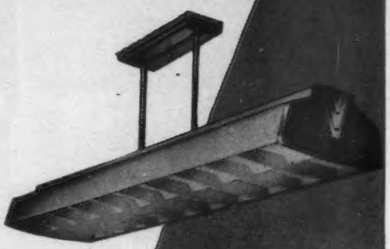
### *Glare Reducing Glass*

*Coolite Heat Absorbing Glass.* Explains and diagrams properties of Coolite which is said to afford clear vision and obviate "squint eyes" by reducing solar heat

(*Continued on page 252*)

KAYLINE
the one source lighting line

COMPACT
and USEFUL



Yes, Compact and Useful, that's the way architects are describing the new 64-page Kayline Catalogue #50. You too, will find this catalogue, covering our full range of incandescent, fluorescent and slimline, residential, industrial and commercial lighting, useful to you. Send for it today.

*See Sweet's Architectural File Section 31A-12*



**THE KAYLINE CO.**
**2480 East 22nd St.**
**Cleveland, Ohio**

KAYLINE
the one source lighting line

GLOBE SPRINKLERS



FIREMEN EVERY 10 FEET

**Lower Production Cost.** America's huge *FIRE* waste is an overhead charge on production . . . an unfair burden on our manufacturers now competing for world trade. Control the *FIRE* menace. Let GLOBE Sprinklers protect your plant.

**GLOBE AUTOMATIC SPRINKLER CO.**

*NEW YORK . . . CHICAGO . . . PHILADELPHIA*

*Offices in nearly all principal cities*

THEY PAY FOR THEMSELVES

**THERE'S NO PANACEA FOR VENTILATING ILLS**

*Burt*



*Free-Flow*

Burt engineers learned long ago that no one type of ventilator is efficient for all installations. Even the same building, when used for the manufacture of another product, may require ventilating changes. That's why the Burt line includes a type and size for every need — why Burt's 50-year experience is an important consideration in selecting *your* ventilating equipment.

THE BURT MFG. CO.

ROOF VENTILATORS • OIL FILTERS
EXHAUST HEADS

48 E. South Street, Akron 11, Ohio, U.S.A.

SEND FOR CATALOGS

Burt Engineers are glad to help on plans

**shellac** *proves it can take it . . .*




**BOWLING ALLEYS,** gymnasiums, and dance floors finished with shellac remain beautiful, almost unmarred after months and months of heavy traffic. Looks like satin, wears like iron, even on surfaces that take the most abusive treatment. No wonder 75% of all wood floors are finished with shellac!

*easy-to-apply • fast-drying*

**shellac**

**the *finest* finish you can specify for floors, for all "natural" woodwork**

**Unsurpassed as a primer and sealer for woodwork and plaster walls**

**MAIL TODAY**

D11

**SHELLAC INFORMATION BUREAU**
**OF THE AMERICAN BLEACHED SHELLAC MANUFACTURERS ASSN., INC.**
**65 PINE STREET, NEW YORK 5, N. Y.**

Please send, without obligation, "Standard Specifications on the Use and Application of Shellac".

FIRM NAME

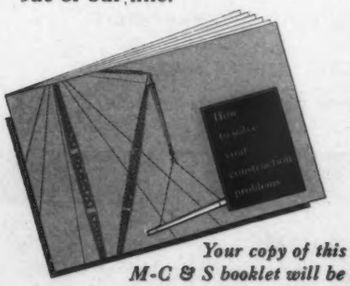
ADDRESS CITY & ZONE STATE

SIGNED



# M-C & S rears your brain-child right!

Your architectural plans are in competent building hands when Merritt-Chapman & Scott is assigned the care and rearing of your brain-child. For M-C & S brings its specialized skills and unrivalled facilities to bear on each job . . . and gives full attention to every construction detail. The result is a building completed as designed, on time. As illustrated in the brochure offered below, no project is "out of our line."



*Your copy of this new M-C & S booklet will be sent immediately upon request to Dept. AR3.*

**MERRITT-CHAPMAN & SCOTT CORPORATION**

*Founded in 1860*
*. . . now in our 90th year*

**GENERAL OFFICES**
**17 Battery Place, New York 4, N. Y.**
Cleveland • Boston • New London


## Architectural Engineering

**LITERATURE**
*(Continued from page 250)*

radiation, controlling and distributing light. Coolite transmissions and specification data are given. 12 pp., illus. Mississippi Glass Co., 88 Angelica St., St. Louis 7, Mo.

### *Precast Concrete for Floors and Roofs*

*Plasticrete. Dox Floor and Roof System for Modern High Speeds Building Construction.* Working sheets give diagrams of Dox concrete blocks for the following: typical details at outside walls, outside wall section of multiple story building, roof details, frame construction, heating and plumbing details, electric outlets and heavy suspended fixtures. 10 pp., illus. Plasticrete Corp., Hamden, Conn.

### *Masonry Repairs*

*30 Years Repairing New England Masonry.* Booklet discusses masonry (natural stone, concrete, stucco, etc.) that has suffered leaks, disintegration, efflorescence and rusting of steel encased within masonry walls. Correction, restoration and treatment are suggested in text and photographs. 20 pp., illus. Stanley Newman Co., Waterproofing Engineers and Contractors, 73 Main St., Cambridge, Mass.

## LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Melvin H. Best, Industrial Designer, 262 S. Greenwood Ave., Pasadena 10, Calif.

William Hudson Borthwick, Architect, 43 Kenneth St., Hartford 6, Conn.

Asher Gruenberg, Architectural Engineer, c/o Architectural Drafting Service, 3453 W. Grenshaw St., Chicago 29, Ill.

Interior Blue Print and Drafting, 268 Bernard Ave., Kelowna, B. C.

Thomas J. Irwin, Student, University of Manitoba, Winnipeg, Canada.

David Lubin, 104 North Broad St., Suffolk, Va.

Zui Zemel, 23 A. Hashalom St., Haifa, Israel.


# Specialty Lights *by* CANNON

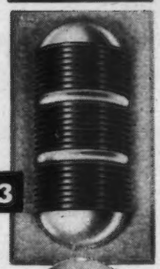


(Above) DNP-1 light used in residence, with face plate removed, showing construction of (2 gang) plaster ring box cover.



**DNP-2**

Low Voltage or 115V



Plastic prism lens in red, green, blue, amber and crystal—inside surface sandblasted.

**DNP-3**

Face plate of Plaskon Stainless Steel or various Hammertone finishes.



**DMP-1**

Marine-type Pedestal light with "Pathfinder" head may be mounted on post, wall, ceiling, etc.




Construction of Pathfinder-head type prism lens combinations: 360°, 180°, or 3 prism 360° rings.

Write for a copy of the UPL-2 Specialty Lights Bulletin for complete information. Add PL-3 if interested in the Pathfinder type lights.

Write to Cannon Electric Development Company, Division of Cannon Manufacturing Corporation, 3209 Humboldt Street, Los Angeles 31, California or contact one of the 28 Cannon representatives located in principal U. S. A. cities. Canadian plant and offices: Toronto, Ontario. Export: Frazar & Hansen, San Francisco, California.

CANNON ELECTRIC

If they are,




MERCOID CONTROLS

You can always count on their fine engineering to give very dependable service for a long time. They are built to last.

*Complete catalog sent upon request*

THE MERCOID CORPORATION
4201 BELMONT AVE. CHICAGO 41, ILL.

**Sharpener Cap**

is one of the many superior features of

**MARS Lumograph**




**MARS LUMOGRAPH** has a removable sharpener cap; non-slip clutch keeps the lead tight. Guaranteed to your liking.

**MARS LUMOGRAPH** imported lead is so black and dense that opaque lines are easily drawn. Leads do not flake. Accurately graded.

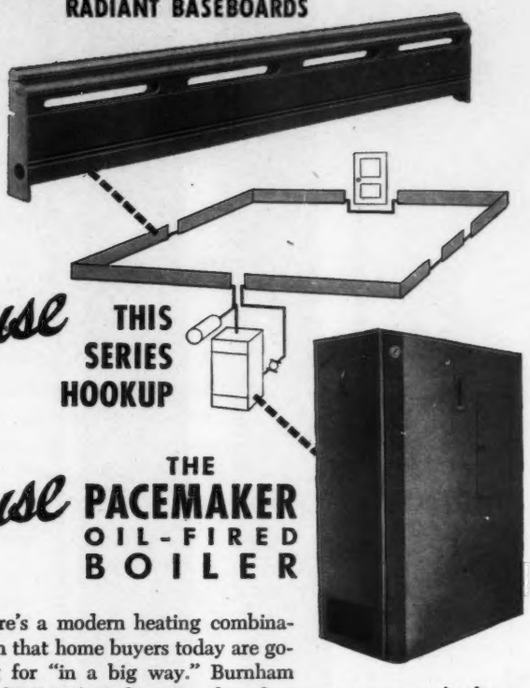
$1.00 each. Refill leads 60¢ a box of 6. Quantity discounts. 18 degrees, EXB to 9H. At dealers or write us.

J. S. STAEDTLER, INC.
53 WORTH STREET NEW YORK 13, N.Y.

STAEDTLER SINCE 1662

**HERE'S HOW TO FIT SALES APPEAL INTO YOUR PLANS *at low cost***

***use*** BURNHAM'S **BASE-RAY** RADIANT BASEBOARDS



***use*** **THIS SERIES HOOKUP**

***use*** **THE PACEMAKER OIL-FIRED BOILER**

Here's a modern heating combination that home buyers today are going for "in a big way." Burnham BASE-RAY* Radiant Baseboards are *every* woman's choice. Connected in series, the installation saving in dollars is substantial. Hooked up with Burnham's sensational, oil burning PACEMAKER, lowest cost cast-iron boiler on the market, you'll save dollars *again*. Result: A modern, efficient radiant heating installation that actually costs no more than most ordinary heating systems. Try it for *Sales Appeal*. Use the coupon for full information. *Reg. U.S. Pat. Off.



***CAST IRON — Both BASE-RAY Radiant Baseboards and PACEMAKER are made of cast iron, the metal which combines excellent heat conductivity with life-long service. Its durability has proven it to be superior to all other metals. Many cast-iron Burnham Boilers are still giving dependable service after more than a half century of use.***

*Burnham Corporation*

"PIONEERS OF RADIANT BASEBOARD HEATING"

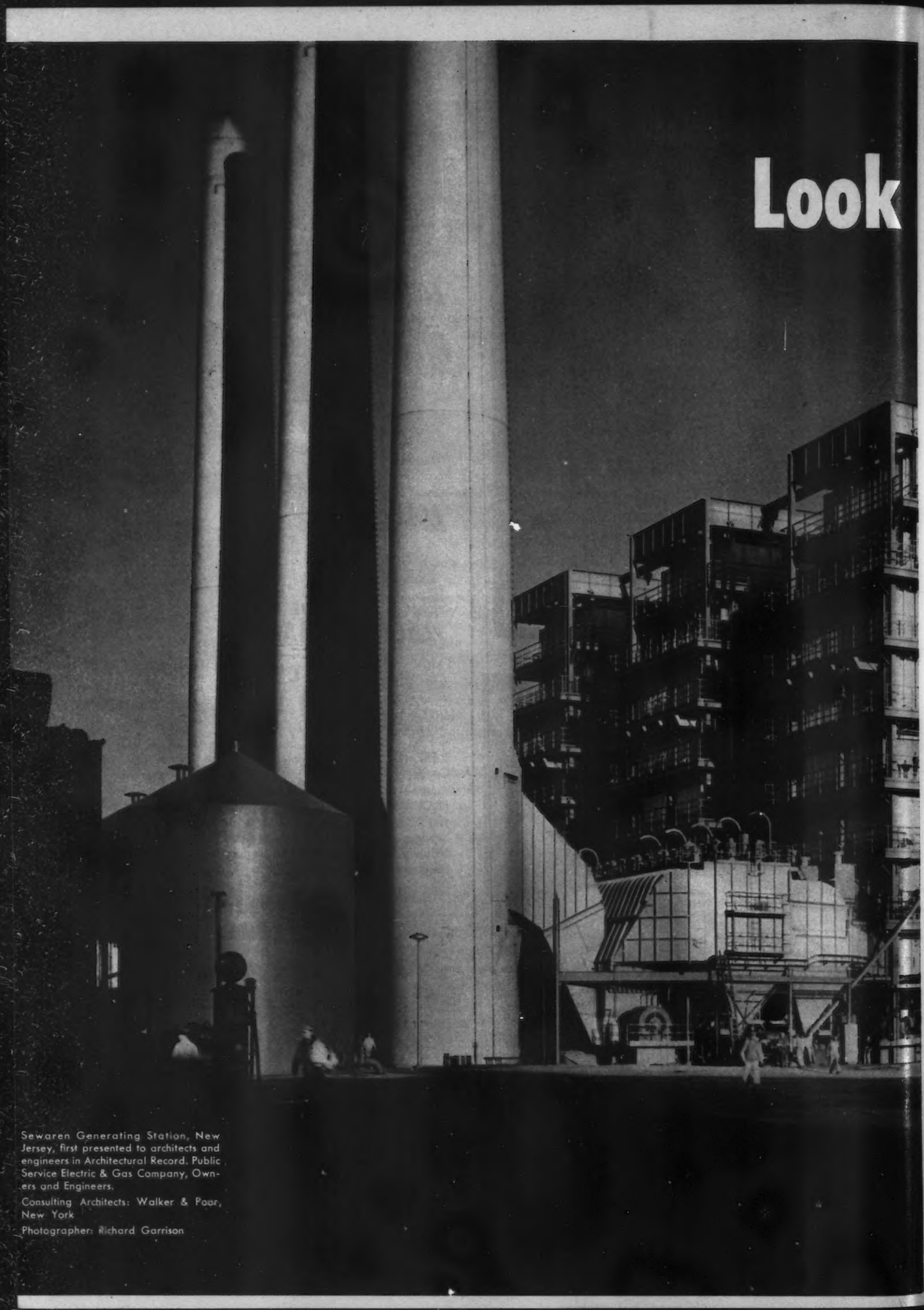
**IRVINGTON, N. Y.**

BURNHAM CORPORATION Dept. AR-110
Irvington, New York

Please send literature giving complete information on BASE-RAY Radiant Baseboards and PACEMAKER Boiler.

Name .....

Address .....

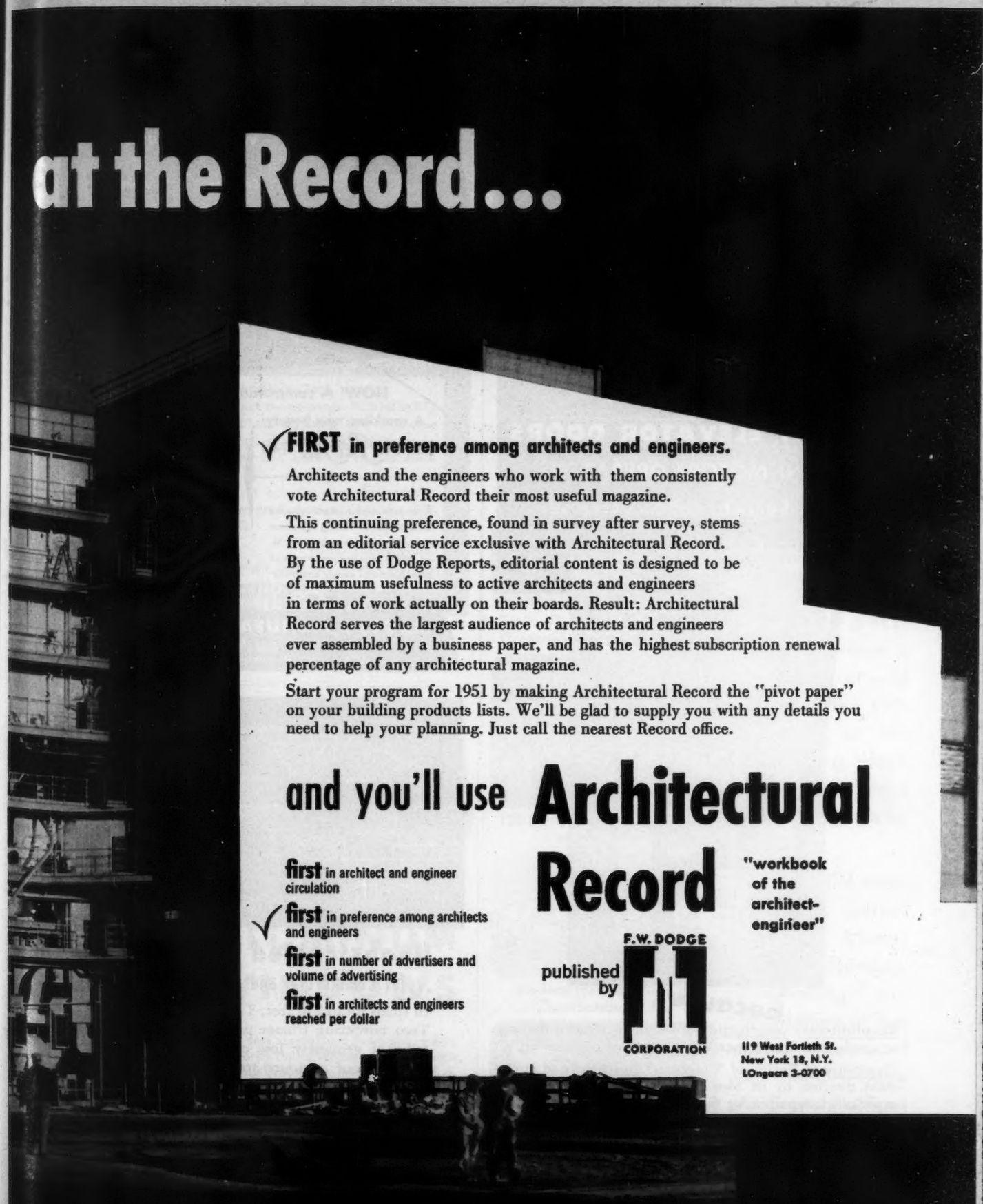



Sewaren Generating Station, New Jersey, first presented to architects and engineers in Architectural Record. Public Service Electric & Gas Company, Owners and Engineers.

Consulting Architects: Walker & Poor, New York

Photographer: Richard Garrison

# k at the Record...



✓**FIRST in preference among architects and engineers.**

Architects and the engineers who work with them consistently vote Architectural Record their most useful magazine.

This continuing preference, found in survey after survey, stems from an editorial service exclusive with Architectural Record. By the use of Dodge Reports, editorial content is designed to be of maximum usefulness to active architects and engineers in terms of work actually on their boards. Result: Architectural Record serves the largest audience of architects and engineers ever assembled by a business paper, and has the highest subscription renewal percentage of any architectural magazine.

Start your program for 1951 by making Architectural Record the "pivot paper" on your building products lists. We'll be glad to supply you with any details you need to help your planning. Just call the nearest Record office.

## and you'll use Architectural Record

"workbook of the architect-engineer"

**first** in architect and engineer circulation

✓**first** in preference among architects and engineers

**first** in number of advertisers and volume of advertising

**first** in architects and engineers reached per dollar

published by F.W. DODGE CORPORATION

119 West Fortieth St.
New York 18, N.Y.
LOngacre 3-0700

the World's SECURITY depends
on the UNITED NATIONS
and the
UNITED NATIONS
DEPENDS ON
Security
FREIGHT ELEVATOR DOORS
& "UNI-MOTOR" OPERATORS
in its Secretariat Skyscraper



because

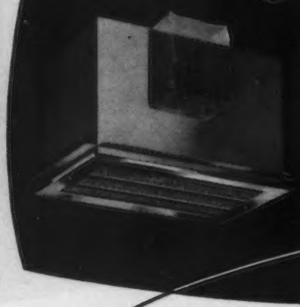
Revolutionary construction of building required the best in specialized door research and practical engineering.

Flexibility of Design of "Uni-Motor" Operators and equipment directed by its own "electric brain" controls were especially adaptable for the many problems encountered.

Quiet operation with heavy capacity construction were required. The combination of Security Doors and Operators give CONTINUED noiseless dependable operation.

Security FIRE DOOR CO.
3046 LAMBDIN AVE. • ST. LOUIS 15, MO.

MARCO engineered recessed ventilating units

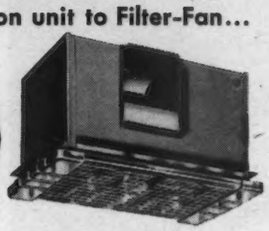


Only MARCO makes the Filter Fan with lifetime washable filter

Stops grease from entering the fan or air ducts — traps it in an easy-to-clean metal filter. Reduces fire hazard, improves sanitation. Engineered for long, silent and efficient operation.

NOW! A companion unit to Filter-Fan...

A sparkling new beauty:
MARCO Bel-Air FAN

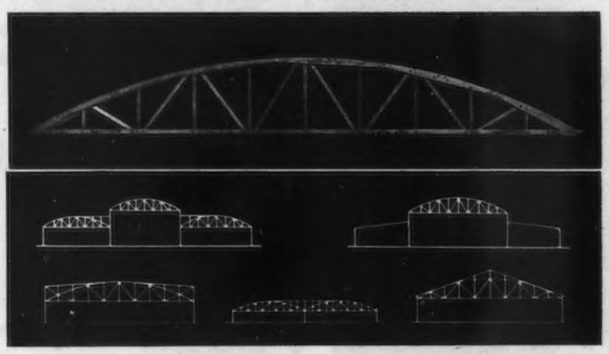


A competitively priced unit using the same efficient air-moving equipment as the Filter-Fan. In place of the filter, MARCO has designed a grille of great functional beauty and utility.

*Write for bulletin giving complete specifications on MARCO Recessed Ventilating Units.*

*Bel-Air provides comfort plus Beauty*

MARVIN MANUFACTURING CO.
3071 East 12th Street, Los Angeles 23, California
*Sold Nationally through leading Distributors*



Unobstructed Floor Space
...for commercial and industrial buildings

In spans up to 250 feet, Timber Structures Arch Teco bowstring trusses provide post-free floor space at genuinely low cost. Flat, pitched or variable roof contours are formed with simple build-ups, as shown in illustration above. Frequently web members are extended below bottom chord to support mezzanines, balconies, etc.

For information, write for booklet, "Timber Members".

TIMBER STRUCTURES, INC.
P. O. BOX 3782-A, PORTLAND 8, OREGON
Offices in New York; Chicago; Kansas City, Mo.; Dallas, Texas; Eugene, Ore.; Seattle and Spokane, Wash.; Boise, Idaho; and Lawrenceville, N. J.
TIMBER STRUCTURES, INC. OF CALIFORNIA, Oakland
TIMBER STRUCTURES OF CANADA, LTD. • Peterborough, Ontario
Local Representatives Coast to Coast



You can make it easy for your client to

# SAVE 50% of NURSES' TIME AND STEPS

with the STANDARD Patients' Phone System

There still are too few nurses and too little time.

The hospital whose architect recommends STANDARD Nurses' Call and Patients' Phone Systems will save substantially in each nurse's time, efficiency and disposition — and permit her to give better and faster service to more patients.

These visual-audio systems actually save *half* of the nurses' time- and energy-consuming steps! Ask for full information on STANDARD

Patients' Phone System • Nurses' Calling System
Doctors' Paging • Night Lights • Staff Registers

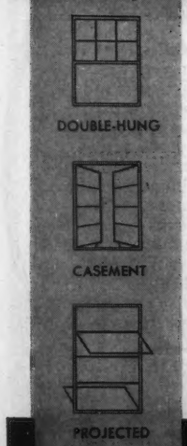
STANDARD

**THE STANDARD ELECTRIC TIME CO.**
81 LOGAN STREET SPRINGFIELD, MASSACHUSETTS

---

# Insist on this Seal... *when you specify* ALUMINUM WINDOWS




This seal assures windows that, when tested by the independent Pittsburgh Testing Laboratory, meet the A.W.M.A. quality specifications for materials, construction, strength of sections, and minimum air infiltration requirements.

For complete specs covering "Quality-Approved" aluminum windows—double-hung, casement and projected—and names of approved manufacturers, consult Sweet's or write to Dept. R.

ALUMINUM WINDOW MANUFACTURERS ASSOCIATION
74 Trinity Place, New York 6, New York

---




USES

# Frick Refrigeration

Hershey bulk ice cream, Banjos, popsicles, and novelties are made at this plant in Chambersburg, Penna., where three Frick compressors provide refrigeration.

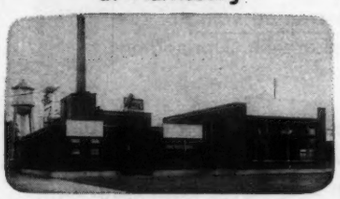


Sunlit Plant of the Hershey Creamery Co., Harrisburg, Pa.

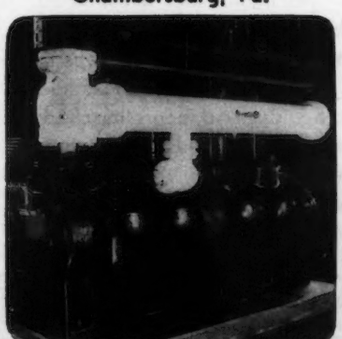


120-Ft. Quick-freezing Tunnel at Harrisburg

Hershey packaged ice cream is quick-frozen at —50 deg. F. in the 170-ft. tunnel at the Harrisburg plant, where five Frick compressors are installed.



Modern Hershey Plant at Chambersburg, Pa.

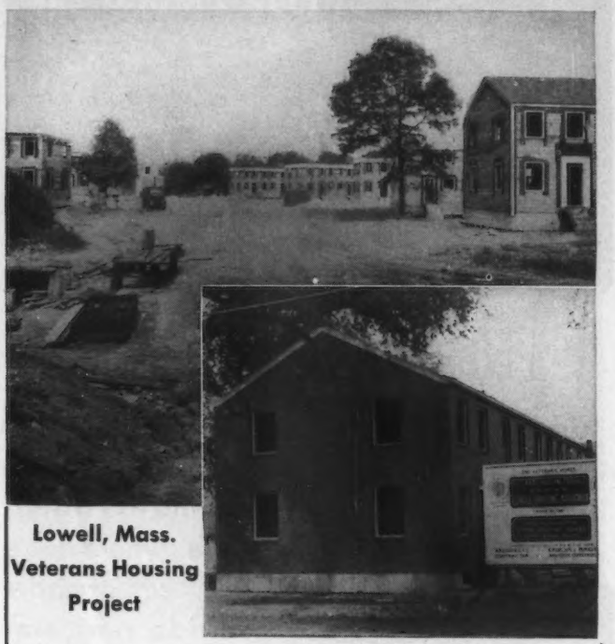


Frick 4-Cyl. 14" by 12" Compressor at Chambersburg

Consult the nearest Frick Sales-Engineer about that quick-freezing, refrigerating, air conditioning or ice-making equipment you need. There are Branch offices and Distributors in all principal cities to serve you.

**FRICK COMPANY**
Waynesboro, Penna.
*Also Builders of Power Farming and Sawmill Machinery*

## All the Surfaces of the Sills . . .



Lowell, Mass.
Veterans Housing
Project

## . . . Were Brush Treated With

**CUPRINOL®**

**STOPS ROT**
**AIDS DIMENSIONAL STABILITY**

For the recent Veterans Housing Project developed by the Lowell, Mass., Housing Authority the architects were Krokyn & Browne. They, and the Housing Authority, appreciated the greatly increased value of treating vulnerable construction lumber with Cuprinol, and the low cost for its application.

The specifications, therefore, called for all surfaces of sills, studs to above the first floor level, and all ends of joists over walls and bearings to be brush coated with #10 Cuprinol.

Cuprinol is a long established liquid wood preservative with copper, or zinc, naphthenate base that stops rot and termites, reduces the swelling and shrinking of wood, and minimizes grain raising and separation checks in plywood. Cuprinol is easily applied on-the-job by brush, spray or dip, and is completely harmless to the skin when handling. It is widely carried by lumber yards and building supply dealers.

See Sweet's Architectural File 5d/3 or write for information on types of Cuprinol for specific use.

**CUPRINOL Division, Darworth Incorporated**
**3 Maple Street Simsbury, Conn.**



## EMPLOYMENT OPPORTUNITIES AVAILABLE

*Advertising rates on request*

**Positions Open**

**MARYLAND STATE DEPARTMENT OF HEALTH:** has an immediate opening for an Architect. Applicants must be registered or be eligible for registration to practice architecture in Maryland (or in a State with comparable requirements). This is a State Merit System Position offering generous vacation and sick leave, automatic salary increases and retirement benefits. Standard Salary — $6000–$7500. Contact the Office of the State Employment Commissioner, 31 Light Street, Baltimore 2, Maryland, for complete information.

**ARCHITECTS REPRESENTATIVE:** Established national manufacturer of building materials will consider applications of men 30 to 40 years of age, with degree in civil engineering or architecture, and with building experience. The responsibility of the man selected will be to acquaint architects and engineers with our materials and systems and render service to these professions. Adequate schooling and information on products provided. State age, education, ambitions, business experience, salary requirements, etc. All applications treated in confidence. Reply Box 517, *Architectural Record*, 119 W. 40th St., New York 18.

**CONSTRUCTION SUPERINTENDENT:** with experience in light building construction. Position with sugar company in Eastern Cuba. Man to be in charge of maintenance, repair and partial reconstruction of employees' housing and community facilities. Must have sound experience in general building construction, job organization and supervision. Some knowledge of Spanish important. Position includes use of house and moving costs U. S. to Cuba. Salary $7000 to start. Submit qualifications in writing. Box 518, *Architectural Record*, 119 W. 40th St., New York 18.



***EFFICIENCY AT LOW COST!***



*Combination*
METAL WEATHERSTRIP
SASH BALANCE

**ZEGERS** *Dura-seal*

Dura-seal is a *combination* of metal weatherstrips and sash balances...*in one unit!* Provides complete weather protection *plus* smooth, noiseless, finger-tip window operation. Eliminates paint-stuck windows. Quickly and easily installed, Dura-seal is used with a stock plank frame and stock sash. Plank frames permit use of narrow mullions and trim providing more glass area. Less expensive than weatherstripping combined with any other type of sash balances.



**WRITE FOR INFORMATION**
OR see our CATALOG in SWEET'S FILE SECTION 19b/7

**ZEGERS INCORPORATED**
8092 South Chicago Ave., Chicago 17, Ill.



*Always Specify—*

## "METAL WORK by FISKE"

➔ This cast iron Veranda — (Design 77-S) — produced by FISKE for the Boyette Apartments, Charlotte, N. C. CHAS. W. CONNELLY, *Architect.*

Many of our cast iron Veranda designs have a heritage of historical authenticity — and so we are able to produce from these designs — the most pleasing effects.

Visit our show room display of Ornamental Iron Work: Verandas, Balconies, Railings, Entrances—or write for catalog. ESTABLISHED 1858

**J. W. FISKE Iron Works**

80 Park Place • Dept. 10 • New York 7, N. Y.

*See our catalogue in Sweets 6e/8*

---

HOTEL

# COMMODORE

*In the* SHADOW *of the* CAPITOL *At* UNION STATION




One block from Union Station. Convenient to all attractions. Moderate priced dining room. Cocktail Lounge. All outside rooms with bath...$3.50 to $8.00

OFFICIAL AAA HOTEL

# WASHINGTON D.C.

UNION STATION CAPITOL PLAZA

---




## By Specifying BECKLEY-CARDY CHALKBOARDS For Your Next School

A schoolroom chalkboard (blackboard) is more than just a writing surface for chalk. It is part of the wall and so must have strength, smoothness, be warpless, damp resistant, writable with ordinary chalk, glareless and easily erased clean.

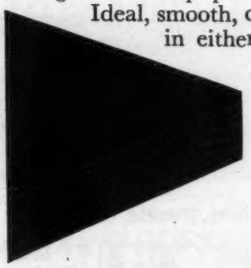
For over 40 years Beckley-Cardy Chalkboards have been proven in use, to embody all these qualities.

**Modern installations prefer the eye resting "Litegreen" color to the old proverbial blackboard.**

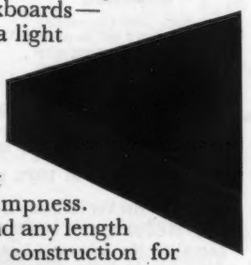
**OFFERED IN TWO TYPES**

Beckley-Cardy Chalkboards are available in two types of base — to suit any architect — both are available in Litegreen or black writing surface.

**Slatebestos** — Permanent, everlasting, fire resisting and damp proof cement-asbestos base . . . Ideal, smooth, close grained writing surface, in either black or Litegreen . . . *the preferred color.* Panels are 3½ and 4 feet wide in 5–6–7–8 feet lengths — 3/16 inch thick. The finest possible board for new modern schools.



**Videoplate** — Newest development in Chalkboards — a perfect writing surface on a light weight pressed wood backing — less than 2 lbs. per square foot. Available in both black and Litegreen *. . . the preferred color.* Panels work easily — will not deteriorate in dry or dampness. Panels 3½ and 4 feet wide and any length to 12 feet. An unequalled construction for remodeling as well as new work.



**For full details of these outstanding Beckley-Cardy Chalkboards see Sweet's 1950 Catalog—23 d/l or write us for samples and literature.**

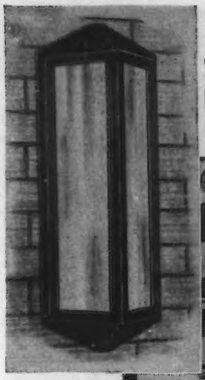
CHALKBOARD DIVISION

**Beckley-Cardy Co.**

1630-1634 INDIANA AVE. - CHICAGO 16, ILL.

# HERWIG

THE WORLD'S LARGEST LINE OF CAST METAL Ornamental Lighting Fixtures






HEAVY CAST IRON
BRONZE
ALUMINUM
•
250 EXTERIOR—INTERIOR DESIGNS

Send for **CATALOG-50** Today

**THE HERWIG COMPANY**
1757 Sedgwick St. • Chicago 14, Illinois

# HAR-VEY *ROLLING DOOR* HARDWARE

introduces an Economical

*New Hanger for Wardrobes*



**Exclusive new features that save time, trouble, and money!**



**Quick, simplified installation**
Hung from the outside, doors can be easily slipped in place after shelving is installed.



**Space between doors can be varied** -- no limit on number of doors

**Less Headspace is required**

**Track can be used for Trim** in cabinets and show-cases, because hardware is mostly concealed

**Economically designed for lower cost**

**Quality-made of 100% rustproof materials** with extruded aluminum track

This new Har-Vey Hardware is ideal for cabinets, wardrobes and similar installations

***Learn all the advantages today -- mail this coupon now***

*Address:* **Hardware Division T**

**METAL PRODUCTS CORPORATION** HAR-VEY HH HARDWARE
807 N. W. 20th St. Miami, Florida

Please send me your free folder on rolling doors & Har-Vey Hardware

NAME_____
COMPANY_____
STREET_____ T
CITY_____ STATE_____




Here's "what you should look for" elevator information for all architects.

**DO YOU HAVE**

"Elevator and Dumbwaiter Planning"—complete selection and standards information in a new 58-page booklet.

"Vertical Transportation For Modern Hospitals"—specific features which should be incorporated in hospital elevator planning.

"Shepard RAM LIFTS"—low first cost, low operating cost oil hydraulic lifts for four floors or less.

*WRITE FOR YOUR COPIES TODAY*

**SHEPARD ELEVATOR COMPANY**
2442K COLERAIN AVENUE, CINCINNATI 14, OHIO

# Always specify *HAWS* for Highest Quality



**HAWS** Electric Water Coolers easily adapt to remote installations of HAWS Drinking Fountains...thus serving several locations.

• A COMPLETE LINE of coolers, fountains, faucets, equipment, filters and accessories. • A reputation for reliability since 1909. • Check in Sweets, or write for complete HAWS catalog.

**HAWS DRINKING FAUCET CO.**
1441 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA
Agents and Sales Representatives in All Principal Cities




YOU GET FOUR IMPORTANT ADVANTAGES

WITH **Kent-Moore**

# MONOXIVENT

EXHAUST ELIMINATING FIXTURES



If you were to sit down and write out a description of the "perfect" exhaust eliminating system for a service department, chances are you'd end up with a word picture of the Kent-Moore J 2980 MONOXIVENT Set. It's designed for use with any underfloor system, and its four important advantages are: **LOW INSTALLATION COST**—Readily installed in upturned "Y" section of main duct. No individual "T's" or branch duct required. **CONCEALED HOSE ASSEMBLY**—Asbestos packed flexible stainless steel tube and special tailpipe adapter slide down under floor for safe keeping when not in use. No storage problem, no unsightly hoses hanging from overhead. **QUICK, CONVENIENT USE**—Just lift the floor cover-plate and MONOXIVENT is ready for use . . . quickly, easily attached, detached and stowed. **LONG LIFE, LOW COST OPERATION**—Fully protected against damage, can't get lost or "borrowed". Minimum frictional losses assures efficient, economical operation. Complete installation data furnished upon request . . . write for it today!




**KENT-MOORE ORGANIZATION, INC.**

GENERAL MOTORS BUILDING • DETROIT 2, MICHIGAN

*Engineers and Manufacturers of Special Automotive Service Tools and Equipment* — *Sales and Service Engineering Representatives in Principal Cities Coast-to-Coast*



# STOP *that* WATER *with* FORMULA #640

A clear liquid sealer which penetrates deeply into masonry surfaces.

The hydrocarbon solvent in Formula No. 640 evaporates, leaving the pores filled with a balanced formula of seven different waxes and resins.

For complete specifications and a description of our other products—cement hardener, floor mastic, rubberized enamel, foundation coating, plaster bond, etc.—see our catalog in Sweet's Architectural File 9a/8 under "Waterproofing and Dampproofing."

WRITE OUR ENGINEERING DEPARTMENT for office test kit, technical data, or regarding any special problem

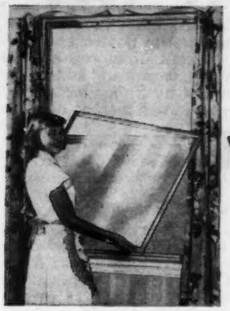
*J. Wilbur Haynes, Engineer*

**HAYNES PRODUCTS CO.**

4007 FARNAM STREET • OMAHA 3, NEBRASKA



THE RUSCO hot-dipped, galvanized



# PRIME WINDOW

(VERTICAL SLIDE)

**The durable rust-resisting Armco Metal**

**Unit with ADVANTAGES THAT APPEAL TO YOUR PROSPECTS**

**RUSCO** is a complete, factory-assembled, factory-painted metal unit . . . contains glass, screen, weather stripping, installation members (wood or metal), self-storing insulating sash (optional).

***ADVANTAGES LIKE THESE HAVE SALES APPEAL!*** 1—A year 'round unit . . . no screens or storm sash to buy . . . 2—Built-in ventilation control . . . 3—Glass and screen panels removable from inside for easy washing . . . 4—No weights, cords or balances . . . 5—No binding or sticking . . . 6—Waterproof felt weather stripping . . . 7—Lumite plastic screen cloth—no deterioration or streaking . . . 8—Automatic locking in closed and ventilating positions.

***ADVANTAGES FOR THE BUILDER TOO!***

1—All working parts are of tubular, hot-dipped galvanized Armco Ingot Iron Zincgrip . . . Bonderized and finished with baked-on enamel . . . 2—No field painting required (except wood trim when used) . . . 3—Glazing and on-the-job refitting are completely eliminated . . . 4—Practical for any type construction . . . 5—Can be installed in less than half the time required by ordinary window units.

**A Quality Product, competitive with the lowest price window unit on the market.**

**You can get the facts about Rusco Prime Windows from the Rusco Distributor in your territory . . . OR WRITE DIRECT**

**THE F. C. RUSSELL CO.**

**DEPARTMENT 7-AR 110, CLEVELAND 1, OHIO**

*Manufacturer of the famous Rusco all-metal, self-storing combination screen and storm sash.*

FCR THE F. C. RUSSELL CO. PRODUCT

©TFCRC

## STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

Of ARCHITECTURAL RECORD, combined with American Architect & Architecture, published monthly at Concord, New Hampshire, for October 1, 1950.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, F. W. Dodge Corporation, 119 West 40 Street, New York 18, N. Y.; Editor, Harold D. Hauf, 119 West 40 Street, New York 18, N. Y.; Managing Editor, Emerson Goble, 119 West 40 Street, New York 18, N. Y.; Business Manager, Robert F. Marshall, 119 West 40 Street, New York 18, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

F. W. Dodge Corporation, 119 West 40 Street, New York 18, N. Y.

*Names and Addresses of Stockholders Owning or Holding One percent (1%) or More of Total Amount of F. W. Dodge Corporation Stock at August 24, 1950*

Paul Abbott, c/o Irving Trust Co., 1 Wall St., New York, New York; Dana T. Ackerly, 15 Broad St., New York, New York; May Gibson Baker, Apt. D-5 35–34 84th Street, Jackson Heights, L. I., New York; Howard J. Barringer, 49 Lawrence Lane, Bay Shore, New York; Alan R. Breed, 2911 33rd Place, Washington, D. C.; James McV. Breed, 15 Broad Street, New York, New York; William C. Breed, Jr., 15 Broad Street, New York 5, New York; Mary F. Broadwell, 423 West 120th Street, New York, New York; Dwyer & Company, 22 William Street, New York, New York; Eddy & Company, P. O. Box 706, Church Street Annex, New York, New York; C. A. England & Company, 165 Broadway, New York, New York; Sumner Ford, 15 Broad Street, New York, New York; Sumner Ford and Underwriters Trust Company, Trustees, c/o Trust Department, 50 Broadway, New York, New York; Irving W. Hadsell, 119 West 40th Street, New York, New York; Thomas S. Holden, 119 West 40th Street, New York, New York; Laura Morgan Jackson, "Stonewalls", Ridgefield, Connecticut; Frances M. McIntosh, 524 Fifth Avenue, New York 18, New York; George W. Morgan, 90 Broad Street, New York 4, New York; Gerald D. Morgan, 5509 Edgemoor Lane, Bethesda, Maryland; Helen D. Morgan, 399 Park Avenue, New York, New York; T. Oliver Morgan, 25 Ridge Croft Road, Bronxville, New York; T. Oliver Morgan, Trustee, 25 Ridge Croft Road, Bronxville, New York; Cordelia Dana Nash, Apt. 15 B, 60 East 96th Street, New York, New York; Minnie C. Ort, Port Murray, R. D., New Jersey; George H. Partridge, 9 Towers East, Bronxville, New York; Jane A. Pratt, c/o Manufacturers Trust Company, 741 5th Avenue, New York, New York; William J. Quinn, 15 Broad Street, New York, New York; John J. Traynor, Trustee, 15 Broad Street, New York 5, New York; Marcus Wayne, 202 Lake Cove Apts., 12020 Lake Avenue, Lakewood 7, Ohio; H. A. Whitten & Company, 165 Broadway, New York, New York; Chauncey L. Williams, 119 West 40th Street, New York, New York; Helen Morgan Young, 71 Summit Avenue, Bronxville, New York.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state) NONE.

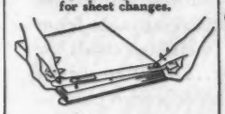
4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

Robert F. Marshall,
Business Manager.

Sworn to and subscribed before me this 29th day of September, 1950. [SEAL] IDA A. PETERSON, Notary Public in the State of New York. Appointed for Westchester County, New York County Clerk's No. 545. Commission expires March 30, 1951.


END THE CATALOG MESS!

Easy opening sections for sheet changes.





No. 12 completely filled with ten additional sections.

get EVER READY loose leaf catalog holders NOW!

Ever Ready Catalog Holders keep catalog data at correct reading angle with both hands free. They can be used on sales counters, buyer's desks and in warehouses for quick reference. Dozens of other uses.



No. 12 Customer's Side

$5.65



No. 12 — Clerk's Side

Save Time • Temper • Money!

Ever have the experience of searching for a catalog for a waiting customer and find it was like looking for "a needle in a haystack?" Most likely you were able to find it easily — at a later date — when you were hunting for another catalog. Ever Ready Catalog Holders keep every catalog sheet instantly available and in place. Each section holds one inch of punched sheets . keeps them in place . . . makes them instantly removable without disturbing the balance. ONLY $5.65 Starts You Off — Order Additional Sections As You Need Them!

ORDER TODAY!

Geneva Mfg. Co., 400 Stevens St., Geneva, Ill.

Gentlemen: Please ship me:

.....No. 12 EVER READY Holder. 15 in. wide, 12½ in. deep, 5½ in. tilt. Sturdy steel, dark green baked enamel. Capacity, 12 sections. With wings and 2 sections: $5.65 Ea.

.....No. 24 like No. 12 but 30 in. wide and with capacity for 24 sections. Priced with two sections $8.50 each.

.....Add'l Sections, $1.00 Ea.

NOTE: Types of punching — Kalamazoo 4-post ☐ Ring Binder 3-post ☐

Company.....

Att. of.....

Address.....

City.....State.....

Money Back Guarantee!

SILENT—TROUBLE-FREE—ACCESSIBLE!

Feather Flote

TRAC-LES-DOR UNIT for RECESSED DOORS!



• No Tracks

• No Alignment Problems

• Fits in 2x4 Flush Stud Wall, Plaster or Dry Wall Construction.

• Mechanism Easily Removable without Tearing Down Wall.

• Fits Doors 2'0" to 3'0" Wide, 6'6" to 7'0" High, and 1⅜" or 1¾" Thick.

• Saves up to 60% of Usual Installation Cost.

•

FEATHER FLOTE uses simple rotary gears (instead of noisy, complicated track-and-roller setup) to provide the most practical, smooth, silent, trouble-free operating mechanism ever for recessed doors.

FEATHER FLOTE TRAC-LES-DOR UNIT is distributed as a complete packaged unit—frame and hardware—by leading Lumber and Building Supply Dealers, and Sash & Door Manufacturers. For name of nearest distributor write

FEATHER FLOTE

1709 W. 8th St. Los Angeles 17, California

# Priceless Possessions *for a Pittance!*



## Specially-Selected Books to divert, inform, relax—

# Ideal Gifts *for Friends, Associates, Clients*

THIS can be said of no other gift: When you give books you give inspiration, guidance and hours of delightful respite from the cares which occasionally beset us all. And no other gift so faithfully conveys your thoughtfulness.

On the following pages, we have described and illustrated a number of books tailored to the interests of architects, engineers, contractors, technicians — just about everybody in the building field!

Some, such as "Time Saver Standards," are essentially technical; others are more general in treatment and content. There are how-to-do-it books, cultural books and books plainly meant for nothing more than sheer relaxation.

There's something for everybody . . . something appropriate to the mood, mind and mien of all your friends.

Take advantage, now, of this convenient and thoroughly satisfactory solution to the Xmas shopping problem. Treat yourself, too! Simply mark your selections, attach your check and return the coupon to ARCHITECTURAL RECORD. Avoid the last-minute rush. Act TODAY.

BOOK DEPARTMENT, ARCHITECTURAL RECORD

119 West 40th Street, New York 18, N. Y.

*See following pages for titles, contents, other details* ➡

*Announcing*... New, Enlarged Edition of

# Time-Saver Standards




NOW on the press, for immediate delivery, is a brand new edition of TIME-SAVER STANDARDS — a gigantic volume of 888 pages containing all of the old edition *plus* 232 pages of new standards never before published in book form.

A grand total of 319 different Time-Saver Standards . . . 888 pages . . . more than 1,000 illustrations, charts and diagrams.

The publication of the first edition of Time-Saver Standards was an event of first magnitude in the architectural field. It has been acclaimed by thousands of architects the country over . . . is in current use as a standard text in more than fifty architectural schools.

Now, in its enlarged form, and containing 232 additional pages of vital information it becomes more than ever an indispensable source of essential architectural data on . . .

ARCHITECTURAL DESIGN

ENGINEERING DATA

MATERIAL TECHNOLOGY

BUILDING PRACTICE

Designed for the use and guidance of architects, engineers, specification writers and other building technicians, this complete collection of these now famous authoritative monographs on technical aspects of construction cuts research time . . . offers proved-by-experience solutions to hundreds of structural problems.

***Well-Organized 12-page Index***

This wealth of data is carefully organized and painstakingly presented. It is so thoroughly indexed that there are references and cross-references . . . occupying twelve pages of closely set print.

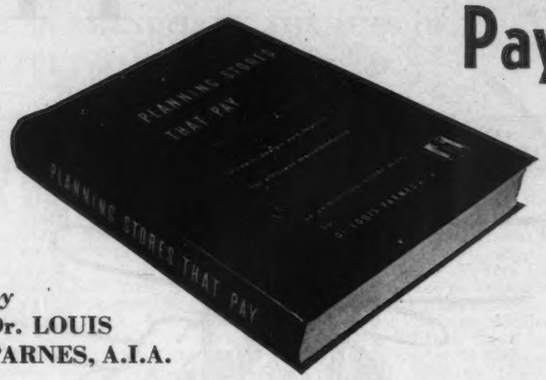
Experience shows that a single item in TIME-SAVER STANDARDS can well save hundreds of dollars in economy construction . . . save many hours of your valuable time.

***Special Pre-Publication Offer***

Although this new, up-to-date edition of TIME-SAVER STANDARDS will be almost one third larger, the regular price will be only $12.50.

But if you place your order now — before December 31, 1950 — you can take advantage of the pre-publication price of $10.00, a 20% saving on the regular price. But, vastly more important, you'll be *sure* to get your copy. The first edition was a sell-out before publication.

# Planning Stores That Pay




*by*
**Dr. LOUIS PARNES, A.I.A.**

In "Planning Stores That Pay," Dr. Parnes demonstrates the amazing degree to which architecture — as expressed in counter lengths, traffic flow, etc. — speeds and increases retail sales, not only for department stores but for specialty and chain stores. Point by point he conducts a tour of the store to illustrate the right and wrong aspects of profit-making design. He shows how to compute such diverse factors as, say, the ideal width of show windows and the optimum number of chairs in a shoe department.

With more than 500 illustrations, he explores every detail of the store and its arrangements — entrances, arcades, show windows, transportation systems, furniture and fixtures, receiving and shipping facilities, floor and department layouts, display arrangement and lighting, and all the hundreds of items that go to make up a modern merchandising machine. Everything is calculated from the viewpoint of efficiency, and the contribution of each part of the store to the process of selling goods profitably is the criterion of its recommended design. Diagrams, charts and scale drawings, from hundreds of leading stores and from the works of America's greatest store architects, prove each point graphically.

***A Basic Textbook on Store Architecture***

"Planning Stores That Pay" is a book of basic principles, but specific ideas flow from its pages in rapid succession. A single chapter has enough suggestions to launch a number of long-term projects in store layout, equipment, etc. It covers every detail of modern stores and is applicable to the redesigning of myriads of stores now obsolete. Reissued in new binding, "Planning Stores That Pay" is now available at the special price of $10.

# Prize Homes

THIS portfolio contains the ninety-two houses, including the twenty-four prize winners and sixty-eight other excellent designs, submitted in the Chicago Tribune's $24,000 Prize Home Competition. Here the architects, unfettered by clients, and lured by $24,000 in prizes, drop the reins and let their trained imaginations go all out. Here you fully realize what a wonderful work of art the modern home is coming to be — in terms of utility, livability, and unobtrusive beauty.

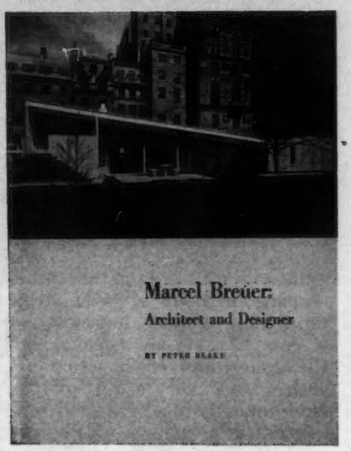
Each house is depicted on a big, white album page: first, with the architect's sketch, with prize winners in luminous full color; then with floor plans, plot plans, elevations and details; finally, with a simple text that points out the salient features.

As a book for study or relaxation; as a book for gracing the living-room table; as a book for the family or friends, this is truly a dual-purpose book, easily worth the cost. De Luxe edition, $5.00.

# Marcel Breuer:

## Architect and Designer

*by* **PETER BLAKE**




THIS fascinating life story of the great contemporary architect, Marcel Breuer, is that rare publishing achievement — a biography which captures wholly the essence and spirit of its subject.

It is a book that will strike a responsive chord in the heart of every architect and designer; it is a book that will instruct, charm and inspire you, and one which you will be proud to display on your library shelf.

Peter Blake, author of the book and Curator of Architecture and Design for the Museum of Modern Art, has drawn heavily on actual reproductions of Breuer's work to explain in terms more graphic than words the architect's growth and development. To many, this visual treatment alone will be worth many times the modest price of the book. 196 illustrations, 128 pages, 8½ x 10¾, stiff cloth binding. $4.00

# The Last Lath

*by* **ALAN DUNN**

"If these cartoons don't strike you as funny, then you've never built a house, or even lived in one." — *San Francisco Chronicle.*

"If a housewarming present is puzzling you, this is the answer." — *New York Herald Tribune.*



AN album of 152 cartoons on Real Estate and Building. Here is a perfect gift to give to: clients, professional friends, business associates.

For many years readers of ARCHITECTURAL RECORD have laughed at the sly and intimate cartoons of Alan Dunn, nationally famous "New Yorker" cartoonist.

In response to repeated suggestions, we have published in one book, entitled "The Last Lath," a selection of 152 Alan Dunn cartoons (32 hitherto unpublished) on the real estate and building business.

Such cartoons, in book form, have been found the most effective, inexpensive gift of our time. They come as a big surprise. They are enjoyed by the whole family. They are shown to friends and neighbors. And the giver is long remembered for his wise and witty choice.

"The Last Lath" is a handsome album: 152 cartoons on 96 pages, 8 x 10, on 70-lb. paper, with a black-and-yellow picture jacket. Take advantage of this exceptional opportunity to delight your friends. Make a list of them now and then order at these money-saving quantity prices: $2.50 for 1 to 5 copies; $2.25 for 6 to 100 copies; $2.00 for 101 or more copies.

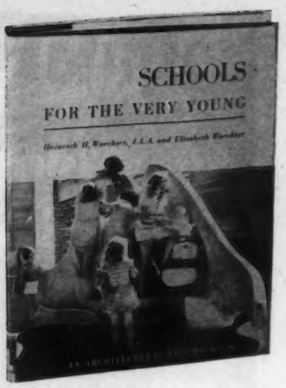
# Schools for the Very Young

*by*

**HEINRICH H. WAECHTER**

**A. I. A. *and***

**ELISABETH WAECHTER**




THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just coming off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. A number of examples of existing pre-schools are presented with critical comment. Much detailed information is given concerning the general and particular space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is thoughtfully analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem and who is thus aware of the many points of detail that go to make up a successful pre-school establishment. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

Mr. and Mrs. Heinrich H. Waechter's combined talents and interests make them ideal co-authors for such a book as this. In 1941 the American Institute of Architects awarded Mr. Waechter an Edward Langley Scholarship for advanced work in research on the topic of "Pre-Schools" and the resultant year of combined study with Mrs. Waechter led to this thoughtful book.

You can be among the first to have a copy of this new book by placing your order now. 208 pages, 7⅜ x 10, stiff binding. Price $6.50.

# Landscape for Living

*by*

**GARRETT ECKBO**




A BRILLIANT and practical book by a recognized authority on landscape design.

Planned with insight and craftsmanship, "Landscape for Living" outlines the major problems in the field of landscape design and offers specific solutions.

This ground-breaking text establishes a foundation for understanding landscape design: traces its history; explains its functions; analyses developments; details principles of design and planning.

Entire sections are devoted to such basic and practical considerations as materials, plants and planting, structural elements, site conditions, parks, gardens, public buildings, group housing.

***Material Presented Graphically***

It devotes page after page to photographs, diagrams and texualt analysis of actual gardens, parks, and public buildings. Problems are explained and solutions given.

"Landscape for Living" is a handsome book of 288 pages on heavy coated stock; contains more than 400 illustrations, including site plans, drawings, sketches. Page size 8" x 10¾". Price $10.00.

*Turn page for convenient order form* ➡

# Hospital Planning

*by* **CHARLES BUTLER, F.A.I.A.** *and* **ADDISON ERDMAN, A.I.A.**




A COMPLETE, authoritative manual, featuring the new and unprecedented facilities demanded by advanced techniques in hospitalization.

Hundreds of case histories covering the most striking features of 51 modern hospitals and the work of 30 celebrated architects — posing actual problems and showing how they were solved.

266 illustrations: 32 photographs, 11 site plans, 187 floor plans, and 38 special unit plans of rooms, wards, departments and construction details. 232 pages, 8½ x 11. Stiff cloth binding. Comprehensive Index. $15.00.

*Book Department*, ARCHITECTURAL RECORD
119 West 40th Street, New York 18, N. Y.

***You may send me the following books:***

| TITLE | PRICE | COPIES | TOTAL |
|---|---|---|---|
| New Edition — Time-Saver Standards *(regular price after Dec. 31, 1950, $12.50)* | $10.00 | | |
| Planning Stores That Pay | 10.00 | | |
| Prize Homes | 5.00 | | |
| Marcel Breuer: Architect and Designer | 4.00 | | |
| The Last Lath | 2.50 | | |
| Schools for the Very Young | 6.50 | | |
| Landscape for Living | 10.00 | | |
| Hospital Planning | 15.00 | | |
| Psychiatric Sections in General Hospitals | 4.00 | | |
| Restoration of Colonial Williamsburg | 2.50 | | |
| *Other books available:* | | | |
| Architectural Graphic Standards *by Ramsey and Sleeper* | $ 6.50 | | |
| Simplified Engineering for Architects and Builders *by Harry Parker* | 3.25 | | |
| Engineering Contracts and Specifications *by Robert W. Abbett* | 3.75 | | |
| Architectural Specifications *by Harold Sleeper* | 12.00 | | |
| Architects and Builders Handbook *by Frank Kidder and Harry Parker* | 8.50 | | |
| Radiant Heating (revised) *by T. Napier Adlam* | 6.00 | | |
| The House for You *by Catherine and Harold Sleeper* | 5.00 | | |
| Genius and the Mobocracy *by Frank Lloyd Wright* | 5.00 | | |
| Book of Interior Decorating *by Marie Derieux and Isabelle Stevenson* | 6.95 | | |
| Architectural Practice *by Clinton H. Cowgill and Ben John Small* | 12.00 | | |
| Apartment Houses *by Joseph H. Abel* | 11.50 | | |
| House Construction Costs *by G. Underwood* | 4.50 | | |
| Design of Steel Buildings *by Harold D. Hauf and Henry A. Pfisterer* | 5.00 | | |
| The Modern House (revised) *by F. R. S. Yorke, A.R.I.B.A.* | 6.50 | | |
| *Plus 2% sales tax for delivery in New York City* | | | |
| I inclose $..... | TOTAL | | |

*Name*.....

*Address*.....

*City*.....
ZONE STATE

# Psychiatric Sections in General Hospitals

*by* **PAUL HAUN, M.D.**

Chief, Hospital Construction Unit, Psychiatry Division Veterans Administration



TODAY, no hospital is complete without a psychiatric unit. The problem, however, is a complicated one because in the design and construction of such a unit every aspect of the environment must be strictly controlled.

Fortunately, all the architect need know is completely outlined in "Psychiatric Sections in General Hospitals." Here are specific, reason-why instructions covering everything from shafts and stacks to hydrotherapy suites.

"Psychiatric Sections in General Hospitals" is by all odds the most provocative work on specialized architecture since the publication of "Hospital Planning." It is a non-technical book for technical men; one that gives, for the first time, clear and reasoned specifications on a branch of architecture that has leaped from obscurity to prominence in a few short years. Price $4.00.

# The Restoration of Colonial Williamsburg

***The Greatest Adventure Story in the Annals of Architecture***

HOW architects trained in Egyptian archeology forced the secrets of the sumptuous lost capital of Colonial Virginia . . . discovered "this incomparable monument to early American history and art" . . . and reconverted it into a going community!

The Modern Mecca for Americans is pictured with 125 illustrations, including a portfolio of radiant photographs by F. S. Lincoln. So popular has been this picture book of Colonial Williamsburg that more than 70,000 copies have been sold. Now this celebrated 104-page reprint, 9 x 12, bound in heavy cloth, is available at the mass production price of only $2.50.

***Use this coupon to order Today***




STARRETT & VAN VLECK Architects

# ALUMILINE

*makes "light" of modernization problems with Alumilited products that assure*

## BEAUTY – STRENGTH – DURABILITY

1. Extruded Aluminum Store Front Mouldings.
2. Extrud-a-line Factory Assembled Entrances.
3. Narrow Stile Hollow Metal Doors, (Entrances and Metal Doors furnished in Aluminum or Bronze).
4. Custom Built Entrances and Doors to meet any condition.
5. Standard Stock Units for quick, easy installation.

Our Alumilited Aluminum Corrosion Resistant Finish greatly enhances appearance, and protects from scratches and marring.

Send for A.I.A. Building Products Literature Competition award-winning catalogue: *"Construction Details and Selector Guide — Alumiline Store Fronts."*

SEE OUR CATALOG in SWEET'S FILE ARCHITECTURAL

**THE ALUMILINE CORPORATION**

339 ELDERT STREET BROOKLYN 27, N. Y.

---

**NEW LOW GLAZING COSTS!**
**NEW HIGH GLAZING QUALITY!**

*SPECIFY*

# TREMGLAZE

MASTIC GLAZING COMPOUND *IN COLORS*

## Requires No Painting

***Aluminum Windows***

● Specify Tremglaze Aluminum color. It bonds to aluminum, requires no painting—ever. Proven on actual jobs for over ten years. Meets Aluminum Window Manufacturers Association standards.

***Steel or Wood Windows***

● Specify Tremglaze yet pay no more for completed window installations than with a putty job. Save on the paint contract; specify—"Paint first—then Tremglaze". Put paint on the *window* where it belongs—Tremglaze requires no paint. Save on cost of cleaning glass also.

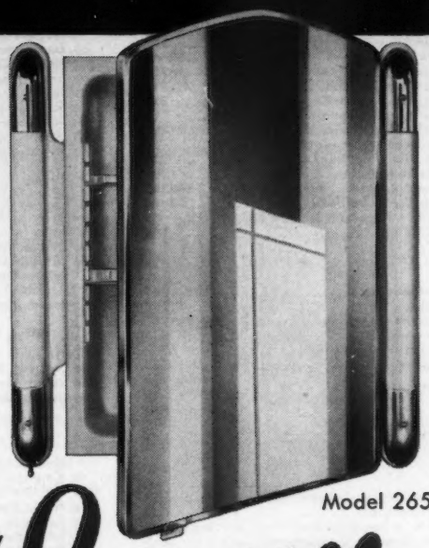
NC-102

***Consult your local Tremco Representative or write to:***

THE **TREMCO** MANUFACTURING CO.
CLEVELAND 4 • TORONTO

---

# A *Beautiful,* LOW-COST FLUORESCENT LIGHTED CABINET...



Model 2654-80

*by* **Lawson** *with* OUTSTANDING QUALITY FEATURES!

★ **One-Piece Drawn Steel Body**
★ **Bonderized after Forming**

- Baked White Enamel Finish
- First Quality Plate Glass Mirror
- Full Length Piano Type Hinge
- Snap-in (no screws) Electrical Inspection Plate
- Stainless Steel Mirror Frame
- Convenience Outlet for Electric Razor, etc.
- Bar-Type Door Stop
- Razor Blade Disposal Slot
- Underwriters' Laboratories Inspection Label

**Write for Catalog on Lawson Bathroom Cabinets, Lavatory Mirrors and Chrome Accessories . . .**

**THE F. H. LAWSON CO.**
802 EVANS ST., CINCINNATI 4, OHIO

**WORLD'S LARGEST BUILDERS OF BATHROOM CABINETS**

*Lawson* BATHROOM CABINETS 134 YEARS

# INDEX TO ADVERTISEMENTS

**MANUFACTURERS' PRE-FILED CATALOGS**

**Symbols "a", "b", and "e" indicate that catalogs of firms so marked are available in Sweet's Files as follows:**

**a—Sweet's File, Architectural, 1950**
**b—Sweet's File for Builders, 1950**
**e—Sweet's File, Engineering, 1950**


a Accurate Metal Weatherstrip Co., Inc. 186
abe Adam, Frank Electric Co. 95
a Adams-Rite Mfg. Co. 246
a Adams & Westlake Company 47
Aerofin Corporation 241
Air Devices, Inc. 243
Alan Wood Steel Co. 174
a Alberene Stone Corp. 196
a Allegheny Ludlum Steel Corp. 166
a Alumiline Corporation 267
a Aluminum Company of America 62–63
abe Aluminum Window Manufacturers Assn. 257
ae American Abrasive Metals Co. 230
American Bleached Shellac Mfrs. Assn. 251
a American Brass Company 55
abe American Lumber & Treating Co. 204
ae American Structural Products Co. 31
a American Tile & Rubber Co. 226
Anthracite Institute 203
Architectural Record 254–255
ae Armstrong Cork Company 33–34
a Arrow-Hart & Hegeman Electric Co. 49
Art Metal Company 195

ae Barber-Colman Co. 245
a Beckley-Cardy Co. 259
ab Bell & Gossett Company 57
Bergen Cabinet Co. 238
a Bethlehem Steel Company 170
Books 233
263 to 266
a Brasco Manufacturing Co. 23
Burnham Corporation 253
ae Burt Mfg. Co. 251
Byers, A. M. Co. 4

Cannon Electric Development Co. 252
ae Carrier Corporation 54
Case, W. A. & Son Mfg. Co. 3rd Cover
ab Ceco Steel Products Corporation 225
abe Celotex Corporation 6
Certain-teed Products Corporation 76
abe Church, C. F. Mfg. Co. 175
Cipco Corporation 234
Combustion Equipment Division 240
a Concrete Reinforcing Steel Institute 72
a Congoleum-Nairn, Inc. 218–219
a Consolidated Water Power & Paper Co. 207
a Corning Glass Works 217
b Crane Co. 227
ae Crawford Door Company 25
Crucible Steel Co. of America 35
ab Cuprinol Division 258
a Curtis Lighting Inc. 89
a CutlerMail Chute Co. 245

a Daimo-Continental, Inc. 220
ab Darworth, Incorporated 258
a Day-Brite Lighting, Inc. 52
abe Detroit Steel Products Company 68
Dodge, F. W. Corporation 198
a Douglas Fir Plywood Assn. 98–99
Dravo Corporation 182–183
ae Du Pont, E. I. de Nemours & Co., Inc. 242

Eagle Pencil Company 71
a Electro Manufacturing Corp. 21
a Ellison Bronze Co. 222
Employment Opportunities 258

Faber, A. W.-Castell Pencil Co., Inc. 243
Farr Company 248
Feather Flote 262
a Fedders-Quigan Corporation 91
Federal Seaboard Terra Cotta Corp. 199
a Fiske, J. W. Iron Works 259
a Fitzgibbons Boiler Company 249
abe Flintkote Company 2nd Cover
abe Flynn, Michael Mfg. Co. 96
a Follansbee Steel Corp. 32
a Formica Insulation 270
Frick Co. 257
ab Frigidaire Division 60

General Aniline & Film Corp. 200
ab General Electric Co., Home Bureau 2–3
a General Electric Co., Wiring 38
ab General Motors Co. 60
a General Portland Cement Co. 84
Geneva Mfg. Co. 262
Globe Automatic Sprinkler Co. 251
ae Globe Hoist Company 246
Granco Steel Products Co. 192
Granite City Steel 192
ae Grasselli Chemicals, Inc. 242
ae Grinnell Company, Inc. 43
Guth, Edwin F. Company 180

a Hall-Mack Company 30
a Hart & Hegeman Division 49
a Haws Drinking Faucet Co. 260
a Haynes Products Co. 261
ab Heatilator, Inc. 223
a Herwig Company 260
Home Owners' Catalogs 198
a Horn, A. C. Company, Inc. 189
a Horn Brothers Company 216
Hotel Commodore 259
ab Hotpoint, Inc. 231
abe Hunter Fan & Ventilating Co., Inc. 244

a Imperial Brass Mfg. Co. 14
Infra Insulation, Inc. 13
ae Inland Steel Company 201
ab Insulite Division 69
International Heating & Ventilating Exposition 242
International Nickel Company, Inc. 90

a Jackson & Church Co. 237
abe Johns-Manville 66–197
ae Josam Manufacturing Co. 235

Kato Engineering Co. 243
a Kawneer Company 86–87
a Kayline Co. 250
ae Kaylo Division 213
a Kennedy, David E., Inc. 221
Kennedy Valve Mfg. Co. 232
Kent-Moore Organization, Inc. 261
ab Kewanee Boiler Corporation 80
a Kewaunee Mfg. Co. 214
Keystone Steel & Wire Co. 205
ab Kimberly-Clark Corp. 64
Kinetic Chemicals, Inc. 92–93
Koh-I-Noor Pencil Co., Inc. 239
ab Kwikset Sales & Service Company 8

a L C N Closers, Inc. 168
Laclede Steel Company 228
ab Lawson, F. H. Co. 267
Lees, James & Sons, Company 67
abe Libbey-Owens-Ford Glass Co. 42
Lincoln Electric Company 191
Litecontrol Corporation 211
a Logan Engineering Co. 19
Lone Star Cement Company 245
Lorio Iron Works 241
a Lucke, W. B., Inc. 237

a Macomber, Incorporated 177
ae Mahon, R. C. Company 29
Marlo Coil Company 184
a Marvin Manufacturing Co. 256
a Masonite Corporation 193
a Matot, D. A., Inc. 247
a Medart, Fred Products, Inc. 45
ab Mengel Co. 97
a Mercoid Corporation 253
Merritt-Chapman & Scott Corp. 252
a Metal Products Corporation 260
ae Mills Company 165
Minneapolis-Honeywell Regulator Co. 27
ab Minnesota & Ontario Paper Co. 69
a Minwax Co., Inc. 248
ae Moeschl-Edwards Corrugating Co. 212
ae Moore, P. O., Inc. 241

a National Gypsum Company 48
National Tube Company 185
a Neo-Ray Products, Inc. 85
Niagara Blower Co. 190

a Onan, D. W. & Sons, Inc. 250
ae Otis Elevator Company 75
ae Owens-Corning Fiberglas Corp. 229
ae Owens-Illinois Glass Co. 31–213
Ozalid Division 200

Pass & Seymour, Inc. 249
Paulding, John I., Inc. 247
abe Pittsburgh Plate Glass Company 58–179
a Portland Cement Association 56
Powers Regulator Co. 74
e Pritchard, J. F. & Co. 235

Radio Corporation of America 24
ae Ramset Fasteners, Inc. 224
a Republic Steel Corporation 40–82–181
abe Revere Copper & Brass, Inc. 94
ae Reynolds Metals Company 83
ae Richards-Wilcox Mfg. Co. 176
ab Richmond Radiator Company 83
ae Ric-Wil Company 37
Roberson, L. N. Co. 239
ae Robertson, H. H. Co. 36
a Roddis Plywood Corporation 88
a Rohm & Haas Company 7
ab Rolscreen Company 22
a Rotary Lift Company 235
ae Ruberoid Co. 100
ab Russell, F. C. Co. 261

a Sarcotherm Controls, Inc. 61
ae Security Fire Door Co. 256
Shepard Elevator Company 260
ae Sloan Valve Company 4th Cover
a Sloane-Blabon Corporation 1
Smith, Alexander & C. H. Masland 77
a Smith, H. B. Co., Inc. 180
Sola Electric Company 81
a Speakman Company 172–173
Staedtler, J. S., Inc. 253
a Stained Shingle & Shake Association 59
Standard Electric Time Company 257
Statement of Ownership 262
Stewart-Warner Corporation 194
a Struthers Wells Corporation 206

ae Taylor, Halsey W. Co. 247
ab Thrush, H. A. & Company 70
a Tile Council of America 53
ae Timber Structures, Inc. 256
Titus Manufacturing Corp. 239
a Titusville Iron Works Co. 206
Todd Shipyards Corporation 240
ab Trade-Wind Motorfans, Inc. 240
a Tremco Mfg. Co. 267
a Trinity Division 84
ae Trumbull Electric Mfg. Co. 78–79
abe Truscon Steel Company 82
a Tuttle & Bailey, Inc. 39

Underwood Corporation 208–209
Unistrut Products Company 187
United States Air Conditioning Corp. 236
ab United States Plywood Corp. 46–244
ae United States Steel Corporation Subsidiaries 185–210
a Universal Atlas Cement Company 210
a Universal Corporation 178

Van-Packer Corporation 249

ae Wakefield, F. W. Brass Company 44
Wallace, William Company 17
ae Webster, Warren & Co. 215
a Weis, Henry Mfg. Co. 202
abe Westinghouse Electric Corporation 65–73
a Westinghouse Electric Corp.—Elevator Division 41
ae Wheeling Corrugating Co. 50–51
ae Wing, L. J. Mfg. Co. 20
a Wood-Mosaic Co., Inc. 18
a Worthington Pump & Machinery Corp. 269

ab Zegers, Incorporated 258
abe Zonolite Company 237



NEW YORK—H. Judd Payne, Publishing Director; Robert F. Marshall, Business Manager; Tom Tredwell, Advertising Mgr.; Benton B. Orwig, Creative Service Manager; Mr. A. Murphy, Advertising Production Manager, 119 West 40th Street; BOSTON—Harry M. Horn, Jr., 855 Park Square Bldg.; CHICAGO—C. B. Riemersma, Robert T. Franden, John M. Cogan, 700 Merchandise Mart; CLEVELAND—John C. Jackson, David K. Bortz, 321 Hanna Bldg.; DALLAS—Joe Sanders, 2909 Maple Ave.; DENVER—Allan Clevenger, 1217 Welton St.; LOS ANGELES—Bob Wettstein, 672 South Lafayette Park Place; PHILADELPHIA—Tom Tredwell, 1321 Arch St.; PORTLAND—Bob Wettstein, 907 Terminal Sales Bldg.; SAN FRANCISCO—Bob Wettstein, Howard Bldg., 209 Post St.

# WORTHINGTON AIR CONDITIONING REPORT

**WORTHINGTON PUMP AND MACHINERY CORPORATION**
**HARRISON, NEW JERSEY**

*Specialists in air conditioning and refrigeration for more than 50 years*

## Worthington Air-Conditions a "Jungle"

There is no such thing in the field of professional orchidology as a "Topsy" orchid. No prize beauty ever "jest grew." It takes large measures of patience, love and the nation's best horticultural brains to raise an orchid properly. At McKee Jungle Gardens, Vero Beach, Florida, one of the South's leading departments of orchidology under the direction of David C. Fairburn, PhD., has added air conditioning to the list of requirements for advanced orchid culture.



*Rare hybrid orchids must be planted in flasks of sterile food solution under carefully controlled conditions. At McKee Jungle Gardens, Worthington air-conditioning equipment provides precise temperature and humidity requirements for this delicate operation.*



*Properly controlled interior climatic conditions are the secret of successful development of orchid seedlings. The Worthington air-conditioning plant at McKee Jungle Gardens assures temperatures accurate to a fraction of a degree.*

Arthur G. McKee, owner of the project, has raised many uncommon hybrid orchids in greenhouses, developing new strains under controlled temperatures. Some of these have been developed to the point at which they withstand outdoor temperatures and may live year-'round in outside locations throughout the 80-acre Jungle Gardens area. But many rare strains of orchids spend their entire lives—and it takes an average of seven years for an orchid to mature—breathing conditioned air indoors.

At Vero Beach a large fortune in orchids is depending on Worthington air conditioning units. Perhaps the



*Worthington Freon-12 condensing units and AHY air conditioning units at McKee Jungle Gardens*

greatest single triumph for Worthington and McKee Jungle Gardens has been the successful raising of the ultra-rare Odontoglossum orchids. These are spray orchids native to 15,000 foot altitudes and low temperatures of the Andes Mountains in South America. Attempts to grow these orchids in the South—and in many parts of the North—have ended in dismal failure because the plants could not withstand radically hot summer temperatures. At McKee Jungle Gardens the Odontoglossums are living in a Worthington-made mountain atmosphere that has not only encouraged their healthy growth, but has also aided several complicated hybridizations. Future plans for the Odontoglossum call for a process of "air-conditioning the plants back to the outdoors," a process in which, through scientifically-plotted temperature changes, the plants can be made to adapt themselves to the normal outdoor climate of Florida and other southern states.

### Another Big Store is Worthington-Conditioned

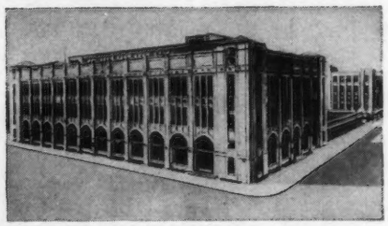


*J. L. Brandeis & Sons, Omaha, has installed a Worthington 67C98 centrifugal refrigeration system (647 ton capacity) for air conditioning the lower floors of this store building.*
*Engineering by Charles S. Leopold Company*

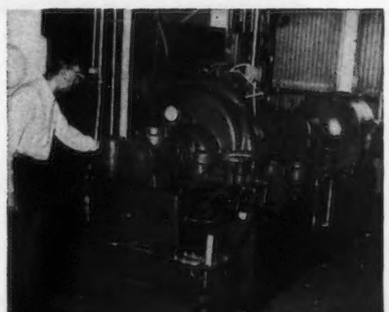
## No More "Wilted Violets" at the Detroit News

"I am sure it's a wonderful investment for efficiency and production. You should see how bright-eyed and happy the staff looks, whereas the last hot day we were a bunch of wilted violets."

That is a typical comment received by the management of The Detroit News shortly after installation of Worthington air conditioning.



*The Detroit News—publisher of the newspaper with the largest ABC-recognized home-delivered circulation in the country.*



*Worthington centrifugal compressor with condenser and cooler in Detroit News building.*

Every minute 240,000 cubic feet of cooled, freshened air is delivered throughout the building to air condition offices, press room and composing room. In the latter two rooms, humidity is carefully controlled, kept low in the composing room, and higher in the press rooms due to static electricity.

Source of the cooling is two Worthington centrifugal compressors, of 200 and 250 ton capacity.

Other Worthington equipment in the installation includes two coolers and condensers and water pumps.

**WORTHINGTON**

**AIR CONDITIONING AND REFRIGERATION**

A complete line . . . in which *all* the vital components are made, not just assembled by Worthington. For more worth with Worthington, see your nearby Worthington distributor (consult Classified Telephone Directory).

"WEAR CONDITIONED"

surfaces

- for Beauty
- for Color
- for Sanitation
- for Low Maintenance



*Walgreen Drug Store, Chicago, Ill.*
*Formica applications designed and installed by Walgreen*
*Formica fabricated by Johnson Plastic Tops, Elgin, Ill.*

Beauty Bonded
FORMICA
Reg. U.S. Pat. Off.
at Home with People
at Work in Industry
Guaranteed by Good Housekeeping

**Only Genuine Beauty Bonded FORMICA has:**

1. Newest and largest selection of...
2. Clear, clean, unclouding color and wood patterns with...
3. Super smooth, blemish-free cabinet maker's finish from...
4. Thirty seven years continuous production experience.

*Peter Pan Restaurant—Chicago, Ill.*
*Formica fabricated by Johnson Plastic Tops, Elgin, Ill.*
*Installed by Standard Store Fixture Co., Chicago*



New 16 MM color sound movie "Living With Formica" pictures uses and how it is made. Available now for group showings. Write for film. Formica, 4632 Spring Grove Ave., Cincinnati 32, Ohio.

***"Just as good" is a fable.***
***Look for the label.***
***Insist on genuine***
***Beauty Bonded Formica.***

